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United States  
Department of  
Agriculture

Animal and  
Plant Health  
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Veterinary  
Services

# Task Analysis for Accredited Veterinarians

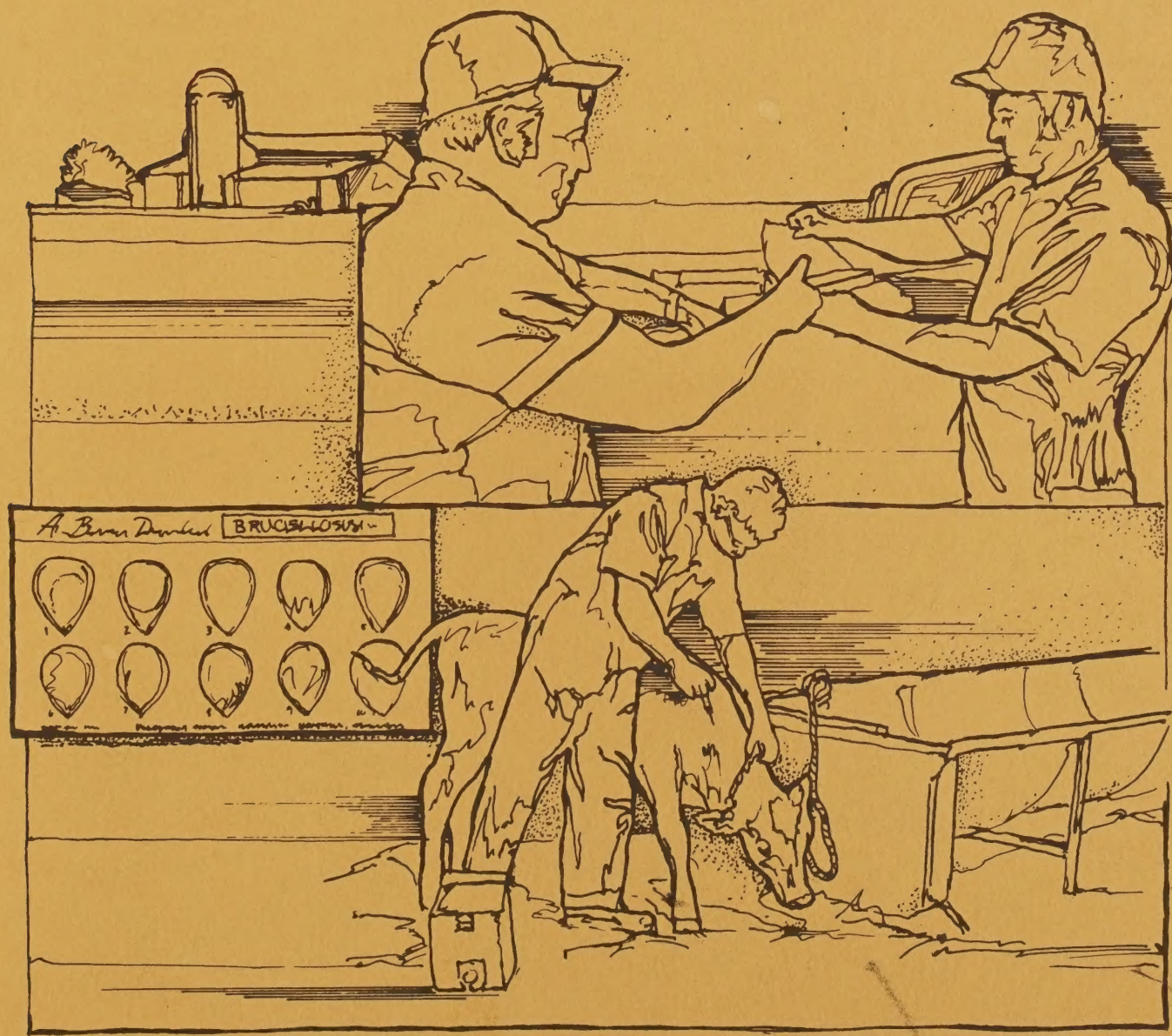
Developed by Veterinarians from  
United States Veterinary Schools  
and Veterinary Services

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## Preface

The following material is the result of a Veterinary Accreditation Instruction Workshop, held at the National 4-H Center, Washington, D.C., on October 25-27, 1983. Participants represented two groups, faculty from schools of veterinary medicine of the United States and veterinarians from Veterinary Services, Animal and Plant Health Inspection Service (APHIS), U.S. Department of Agriculture (USDA). Participants were assigned to work groups of approximately five persons. The work groups first tabulated tasks associated with each of the duties of accredited veterinarians recognized earlier by Area Field Study Teams. After the task list was reviewed by the entire workshop, knowledge-skill-attitude requirements to perform each task were identified and reviewed. An inventory indicating when each knowledge-skill should be developed in relation to graduation, i.e., before or after, was compiled by mail poll of the participants after the workshop was concluded.

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# Contents

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CATALOGING = PREP.

## Page

---

4	Welcome by Administrator, APHIS
5	Welcome by Deputy Administrator, Veterinary Services, APHIS
8	Learning Domains
19	Task Analysis, by Area of Responsibility
19	1. Prevent Exportation, Importation, or Interstate Movement of Diseased Animals or Their Products
19	Duty
19	1.1 Examine (inspect) animals.
19	1.2 Identify animals.
20	1.3 Issue interstate health certificates.
21	1.4 Issue international health certificates.
22	1.5 Issue permit for movement of restricted animals.
23	1.6 Test cattle at approved markets and on premises for interstate movement.
24	1.7 Report "suspicious" lesions found in necropsied (slaughtered) animals.
25	1.8 Report any suspected foreign animal diseases, including VVND.
26	1.9 Recognize significant epidemiologic factors in maintenance, spread, and eradication of infectious diseases.
27	1.10 Participate in emergency disease preparedness programs.
27	1.11 Certify disease status of poultry flocks for shipment of birds or eggs.
27	1.12 Scrub stallions for release from CEM quarantine.
28	2. Seek Laboratory Support in Confirming Disease Diagnosis and Disease Surveillance
28	Duty
28	2.1 Collect, record, and submit relevant clinico-epidemiologic history.
29	2.2 Collect appropriate specimens for test.
30	2.3 Apply laboratory test results for infectious or parasitic diseases as required for interstate or international movement and other purposes.
31	3. Participate in Infectious Disease and Parasite Eradication Programs
31	Duty
31	3.1 Vaccinate cattle for brucellosis.
32	3.2 Collect and submit blood samples for brucellosis testing.
33	3.3 Perform card and plate tests for brucellosis (if authorized).
34	3.4 Interpret brucellosis test results.
34	3.5 Perform tuberculin test and report test results.
35	3.6 Brand and tag reactor animals.



## Page

---

- 36 3.7 Identify signs of reportable parasitic (ticks, scabies, screwworms) infestations and report suspected infestations.
- 37 3.8 Recognize signs compatible with scrapie and perform required followup procedures.
- 38 4. Practice Procedures to Reduce Risk of Spreading Disease Agents or Vectors Between Animals and Flocks or Herds
- 38 Duty
- 38 4.1 Report illegal feeding of food wastes (garbage) to swine.
- 38 4.2 Perform effective cleaning and disinfection.
- 39 4.3 Recognize suspected cases of reportable diseases and notify appropriate authorities.
- 39 4.4 Vaccinate horses against equine viral encephalomyelitis to meet shipping requirements.
- 41 5. Provide Clients and Others with Accurate, Informed Advice Regarding Animal Health and Welfare Programs and Other Diseases of National Concern
- 41 Duty
- 41 5.1 Advise regarding requirements for interstate or international movement of animals.
- 41 5.2 Explain significance of export requirements to animal industry of the U.S.
- 41 5.3 Explain significance of U.S. restrictions on importation of animals, animal byproducts, semen, eggs, organisms, and vectors.
- 42 5.4 Advise regarding significance of laboratory test results.
- 42 5.5 Advise regarding State-Federal brucellosis or bovine tuberculosis regulations.
- 42 5.6 Advise regarding procedures to follow in the event of a parasitic infestation.
- 43 5.7 Train others to perform cleaning and disinfection.
- 44 6. Administer or Prescribe Biological Products, Chemicals, or Drugs in Compliance with Legal and Professional Standards
- 44 Duty
- 44 6.1 Appropriately use biological products or authorized chemicals and drugs.
- 44 6.2 Maintain product to assure safety and potency.
- 45 7. Perform Animal Welfare Duties in Compliance with Legal and Professional Standards.

**Page**

45	Duty
45	7.1 Provide veterinary service to licensed dealer clients.
45	7.2 Provide veterinary services as specified under the Horse Protection Act.
46	7.3 Perform certification (animal welfare) for transportation.
47	8. Fulfill Role As Representative of the Government (State/Federal Animal Health Agency)
47	Duty
47	8.1 Explain to clients and others the purposes and activities of Veterinary Services programs and their impact on accredited veterinarians.
47	8.2 Accept responsibility of accredited veterinarian.
48	Knowledge-Skill (K-S) Inventory
52	Summary of Participant Discussion
53	List of Participants



## Welcoming Remarks

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Bert W. Hawkins, Administrator  
Animal and Plant Health Inspection Service

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Welcome to this, the third workshop in a series on veterinary preventive medicine and epidemiology. The two previous workshops, which were held in 1978 and 1980, were organized by the Association of Teachers of Veterinary Public Health and Preventive Medicine, in cooperation with APHIS Veterinary Services. These joint efforts have resulted in highly successful meetings that reflected the mutual concerns of these two organizations.

After the last workshop, representatives from both groups explored possible themes for a future workshop. They agreed that the training of accredited veterinarians is a vital concern to both organizations. This workshop is a result of those discussions, and of the planning and experiences that have occurred since then.

Many of you have participated on Area Field Study Teams. As representatives of colleges of veterinary medicine or APHIS Veterinary Services, you examined the needs of the Veterinary Accreditation Program. The reports of those teams have provided the basis for the agenda of this workshop.

All of us are vitally interested in the success of the Veterinary Accreditation Program. It is administered by Veterinary Services, and is essential to the success of regulatory veterinary medicine. Every veterinary medical school presents preparation for veterinary accreditation. Here today are APHIS participants from both staff and field activities concerned with the accreditation program. Here also are concerned faculty members from 28 veterinary colleges.

I believe we have the makings for productive discussions and positive interactions, all to the benefit of the program.

The Veterinary Accreditation Program has been in existence for 62 years. Back in 1921, when the first veterinary accreditation examination was administered, there simply were not enough Government veterinarians to do the job alone. But practicing veterinarians, as representatives of the Government, have fulfilled a crucial role in animal health programs.

During the 1920's graduate accredited veterinarians in private practice were largely responsible for the success of the bovine tuberculosis eradication program. The work they did through voluntary testing, in cooperation with Government veterinarians, successfully reduced the prevalence of bovine TB, which as a result made compulsory eradication feasible.

Although this work is well known, it was not the first time private practitioners served as representatives of the Government. In 1907, when large numbers of horses were being exported from the United States to Canada, there were not enough Government veterinarians to service this important market. The Canadian Government agreed to accept the clinical examinations and mallein tests performed by graduate veterinarians registered with the Bureau of Animal Industry.

Over the years there have been countless other examples of the contribution of accredited veterinarians. Today, their role remains essential in programs of animal disease control and eradication and in the certification of animals for interstate and international shipment. If anything, that role is more important now than ever, given the complex market network and the large-scale, long-distance movements of massive numbers of animals.

Adequate preparation and proper motivation are critical to the successful performance of accredited veterinarians. What you do here may well add significant new building blocks to the Veterinary Accreditation Program. I welcome your contributions and thank you for coming.



## Welcoming Remarks

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Dr. John K. Atwell, Deputy Administrator  
Veterinary Services

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Accredited veterinarians are a very important part of our program in animal health and humane care. Federal veterinarians, State veterinarians, and accredited veterinarians are the three groups who are most involved in seeing that animals shipped across State lines and animals exported from the United States are properly examined, tested, and certified. Each group plays an important role. It wouldn't be possible for State and Federal people to do the job alone; so, for many years, we in the United States have used accredited veterinarians in the certification process. Not all countries in the world do that. Instead they require Government veterinarians to perform all certifications and testing for animal movements.

Some years ago when we were heavily involved in the tuberculosis and brucellosis eradication programs, accredited veterinarians were doing much of the testing in the field and those of us in regulatory veterinary medicine had a closer working relationship with them. If my comments seem a bit of a "downer," it is because I am very much concerned about the accreditation system in the United States and the use of private practitioners to issue health certificates, perform tests, and certify livestock movements. When we had thousands of accredited veterinarians testing millions of animals for TB or brucellosis at State and/or Federal expense, I think most of them understood the importance of the work they did. They understood that when they signed a health certificate it was a notice to the buyer and to the seller that the tests had been conducted by, and certified by, a *professional*.

I don't know whether it is just perceived by me or whether it is really true, but it seems to me that veterinarians in practice today are not as well versed in the moral and professional issues that are involved in signing health certificates and performing tests. My perception may be inaccurate, but recent events make me believe that there is a real problem.

Years ago, it was very simple to accredit a veterinarian. After providing the necessary training, usually during the senior year at veterinary school, a test was given. If a satisfactory grade was received, the student became eligible for accreditation and usually received such designation upon graduation. Then, if an accredited veterinarian violated the rules of accreditation, he received a letter saying, "You are no longer accredited." It was a simple process and I can remember following it when violators were exposed. Since then the system has changed and it has become a very lengthy, difficult process to remove accreditation or take adverse action. I don't mean to imply that the change is bad, because some of the things we did in years past were unfair. For example, in the past we summarily dismissed fee basis veterinarians or removed their accreditation simply because a Federal or State veterinarian made a judgment that the person was not doing an adequate job.

When I was in school, we received considerable instruction on the things that were expected of veterinarians in the field, i.e., signing health certificates, making examinations, and performing tests. In some schools such instruction is no longer adequate and that's one of the reasons for this workshop.

Part of the problem is the information explosion. There are worlds of information out there, much of which is new since I was in veterinary school. Take the viruses, for example. We were just beginning to learn about them when I graduated from college. Now new viruses are being produced by genetic engineering. I believe I heard that polio virus can, in fact, be fabricated. I do not know if fabricated virus will cause disease, but the genetic makeup of the virus is known. Most antibiotics and sulfa drugs were discovered during and since World War II. I am sure that this information and knowledge explosion has created a very difficult time for you who are teaching veterinary students because you must make many judgments concerning what to teach your students.



Part of my pitch here is to tell you that one thing that needs to be instilled in students is an understanding of the importance of certification, the professionalism, and the moral responsibility that goes with certification. I think some of the things that have happened in recent years have been a disgrace to our profession. I am not sure moral responsibility is the sort of thing that can be instilled by training or if correction will require more drastic action. Part of the solution is to make sure that the knowledge that is instilled in students is the knowledge needed to perform properly as accredited veterinarians.

We may be in the process of losing the third largest export market for live cattle from the United States, other than Canada and Mexico, because an accredited veterinarian issued false certificates on animals being shipped overseas. Thousands of animals were shipped to that country. Now we are trying our best to save that market. In large part, if this important market is lost, it will be because an accredited veterinarian issued certificates when tests were not performed accurately. That is really bad news!

In our brucellosis program, one of the most serious problems occurring in areas where brucellosis is prevalent is "screening." Screening is the term we use to describe the action of practitioners who, after performing a test, remove the reactors, and then certify the remaining animals to move forward. We are often criticized from a regulatory point of view by cattlemen and others. They ask, "Why don't you do something about the veterinarians that you know are creating problems for your program rather than trying to catch cattle dealers or market operators who are involved in minor infractions of the rules?" It is very difficult to prove screening. We may have a very strong suspicion that a certain veterinarian is screening cattle for brucellosis, but it is very difficult to prove such action because there is almost always collusion between a market operator or dealer and a veterinarian. So, we must try to find someone who is willing to "spill the beans." From time to time, we catch a veterinarian in a screening situation and take action against him. But it is a difficult process, and we probably don't catch all of the violators.

The concern I have is for what appears to me to be a lessening of the awareness of veterinarians as to what their signature means on a health certificate or test chart. I believe it depends, to a great extent, on what they learned or were taught in veterinary school.

The veterinary profession is under pressure around the world. Australia, for example, recently had a big shakeup in their veterinary force because kangaroo meat was shipped as beef. Veterinarians were not directly involved in the fraud, but they were responsible for seeing that such an event did not occur and that the product was labeled properly and held securely. The entire veterinary profession was blamed and, therefore, "took it on the chin." So, I think there should be additional effort to see that veterinarians who are working as Government officials, either as accredited, private practitioners, or as employees of the Federal or State Government understand their moral responsibility for unquestionable accuracy and a high level of professionalism. If a test is not performed, they must not say that it is. If a test was done by someone else, don't say, "I did it myself," and anyone who signs a health certificate must have actually examined the animal or animals described on the certificate.

We have had some indications of fraud or just plain lack of understanding even in the animal welfare area. We have veterinarians who are responsible for humane care at research facilities or dog dealers premises who I am not sure recognize inhumane situations when they see them. Some of our Federal inspectors are included in this group. To be more specific, in some cases veterinarians who are responsible to assure humane care at research facilities or dog dealer premises have certified that everything there was adequate when, in fact, inspection showed it was not.



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We have done a great job in this country with accredited private practitioners doing official work, i.e., signing health certificates for interstate and international movement, and so forth. But, the few who do things incorrectly create an atmosphere that damages all of us. Frankly, because of recent episodes involving fraudulent certificates, I am concerned about future exports to countries of the world that have recognized our accreditation program. We do not have enough Federal or State people to do all the certifications. Therefore, we must depend on accredited private practitioners who are authorized to inspect and certify livestock for export. Many countries have accepted this system. But, we do have countries that insist that all the inspections, testing, and certifications be done by full-time Federal or State employees. I don't want to see this requirement extended. To do so would require that Federal veterinarians spend much of their time testing and certifying animals for export when they more properly should continue working, as they are now, in animal disease control and eradication programs.

I see accreditation and the official work performed by accredited veterinarians as a very important part of veterinary medicine in the United States, and a very critical part of veterinary medicine as far as the Animal and Plant Health Inspection Service is concerned. There are a number of possible approaches to resolution of the problem. One of those is what we are looking at in this workshop. Most of you have been involved in meetings of study teams in your State, examining the official activities that accredited veterinarians perform and the training needed to perform them. That approach will be discussed at this workshop. I wish you well in trying to devise a more adequate system because we are in a time when there is more knowledge available than can be absorbed by students. I am aware of that problem. We, the Federal Government, are concerned about one important piece of a veterinarian's responsibility. How can we be sure that students become adequately aware of that responsibility while in veterinary school? We must be sure that accredited veterinarians understand that when they are doing official work they are acting as agents of the State or Federal Government and that inspection of, and certification of, livestock for export carries a great professional and moral responsibility. We look forward to any suggestions you may have on how that might be done better. Some veterinary schools provide veterinary accreditation training one way and some another. Some put considerable effort into this kind of education and others do very little. We are looking for ideas on how to adequately prepare those who will be doing official work.

There is another part of the accreditation process that we are going to look at. If you have any suggestions on this part, we will be anxious to receive them. In the past, we accredited veterinarians as soon as they had graduated and had passed the test and, "maybe," had a short session with the State and Federal veterinarian. Then they were accredited forever. We need to evaluate this procedure. Perhaps we need some method of "re-up" if a person is to remain accredited. He needs to be using that accreditation or needs a certain amount of training. Perhaps, he needs to be reexamined at regular intervals to assure that he understands the importance of signing health certificates and performing tests.

The issue is one of great importance at this time and, as I said, for me it is kind of a "downer" because of several recent events that have placed a cloud over the whole profession. The college level is where we need to start speaking about the importance of accreditation and the importance of a person's signature on an official document. Thank you.

# Learning Domains

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Learning has been classified into four domains for purposes of analysis, curriculum design, and development of instructional units. (Rackham, N. and T. Morgan: Behavior analysis in training. 1977. McGraw-Hill, New York. Romiszowski, A. J.: Designing instructional systems. 1981. Nichols Publishing, New York. Verduin, J. R., Jr.: Curriculum building for adult learning. 1980. Feffer and Simons, London.) The four domains are:

Cognitive (thinking and mental processes)

Affective (attitudinal aspects)

Psychomotor (physical and motor skills)

Interactive (interpersonal)

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## 1. COGNITIVE COMPONENT OUTLINE

For purposes of discussion, the major components of the cognitive domain are outlined; five categories of skills and abilities to use this knowledge are listed in hierarchical form.

### Knowledge

Knowledge of Specifics

Knowledge of Ways and Means of Dealing with Specifics

Knowledge of the Universals and Abstractions in a Field  
(Principles, Generalizations, Theories and Structures)

Examples:

Educational Goal:

The participants will be able to recognize normal clinical values  
for five species.

Learning Outcome:

Given a set of clinical values of an individual animal, the student  
will be able to identify those values within the normal range.

*Infinitives Commonly Used:*

*Direct Objects:*

to recall  
recognize  
identify  
acquire  
define  
describe  
label

list  
match  
name  
outline  
select  
state

vocabulary  
examples  
causes  
theories, etc.



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## Comprehension

Translation  
Interpretation  
Extrapolation

Examples:

Educational Goal:

The students will understand the factors (host/environmental) interactive in normalcy.

Learning Outcome:

Given a set of clinical values, explain for each the factors that determine the normal range.

*Infinitives Commonly Used:*

*Direct Objects:*

to give in own words

restate

explain

rearrange

convert

defend

distinguish

estimate

extend

generalize

give example

infer

paraphrase

predict

summarize

meanings

methods

representations

effects

## Application

Application involves the ability to use information or abstractions in new or concrete situations. This typically includes the use of rules, principles, methods or theories, and, therefore, requires greater understanding of the content than was previously required.

The student often applies techniques and rules to solve problems that have a single correct answer.

Examples:

Educational Goal:

Students will be able to separate animals into normal and abnormal groups based on clinical values.

Learning Outcome:

Given a set of clinical values for an animal, be able to classify them into normal and abnormal.

*Infinitives Commonly Used:*

*Direct Objects:*

to apply

use

transfer

restructure

break down

categorize

change

combine

compose

demonstrate

laws

processes

principles

procedures

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## Analysis

Analysis of Elements  
Analysis of Relationships  
Analysis of Organizational Principles

Examples:

Educational Goal:

Students will be able to distinguish abnormal and normal clinical values and associate causal relationships for each.

Learning Outcome:

From a group of animals among which some are clinically abnormal, the student will be able to prepare a list of possible causes of the abnormalities.

*Infinitives Commonly Used:*

to categorize  
analyze  
compare  
distinguish  
diagnose  
differentiate  
discriminate  
devise

examine  
generate  
illustrate  
infer  
manipulate  
modify  
operate  
outline

*Direct Objects:*

elements  
statements  
relationships  
arrangements

## Synthesis

Production of a Unique Communication  
Production of a Plan, Proposed Set of Operations  
Derivation of a Set of Abstract Relationships

Examples:

Educational Goal:

Student will be able to develop a structured differential diagnostic procedure using clinical observations.

Learning Outcome:

Given a list of possible causes, the student will design a step-wise program of clinical investigation to arrive at a differential diagnosis.

*Infinitives Commonly Used:*

to predict  
prepare  
point out  
plan  
rearrange  
reconstruct  
relate  
reorganize  
revise

solve  
select  
separate  
subdivide  
summarize  
write  
use  
produce  
originate

*Direct Objects:*

patterns  
compositions  
schemes  
specifics



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## Evaluation

Judgments in terms of Internal Evidence

Judgments in terms of External Criteria

Examples:

Educational Goal:

The student, aware of the limitations of the clinical procedures, will be able to evaluate the data and process used in arriving at a diagnosis.

Learning Outcome:

In reviewing the data and process leading to a completed clinical assessment, the student will be able to evaluate the efficacy of the procedures leading to this diagnosis.

*Infinitives Commonly Used:*

to judge  
assess  
appraise  
argue  
compare  
conclude

contrast  
criticize  
justify  
support  
summarize

*Direct Objects:*

accuracies  
precision  
generalizations  
alternatives  
ideas  
products  
solutions  
methods  
materials

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## 2. AFFECTIVE COMPONENT OUTLINE

The affective domain deals primarily with the change or inner growth of an adult learner. The adult receives, becomes aware of, and begins to adopt certain attitudes and principles. These, in turn, form selected value judgments. The affective domain is very important in the instructional process because of its meaning for attitude formation and its total effect on behavior patterns.

### Receiving (Attending)

Awareness

Willingness to Receive

Controlled or Selected Attention

These infinitives indicate that after instruction the student will have received and have given some attention to the stimuli associated with the subject matter that was presented.

Examples:

Educational Goal:

The participants will give attention to accreditation - related instruction sufficient to prepare them as accredited veterinarians.

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**Learning Outcome:**

Given the performance-based instruction for accredited veterinarians, they will accumulate a threshold level of skills, knowledge, and attitudes.

*Infinitives:*

to differentiate  
accumulate  
accept  
listen for

*Direct Objects:*

sounds  
models  
examples  
alternatives

**Responding**

These infinitives indicate some response is being made to the objects and events under study.

**Examples:**

**Educational Goal:**

The participants will comply with the performance of accredited veterinarians.

**Learning Outcome:**

Given a situation of choice, the student will choose to comply with the regulations.

*Infinitives:*

to comply (with)  
volunteer  
practice  
spend leisure time in

*Direct Objects:*

directions  
presentations  
games  
instruments

**Valuing**

These infinitives indicate some value is seen in the subject under study after it has been completed.

**Examples:**

**Educational Goal:**

The participants will be committed to the mission of accredited veterinarians as representatives of the Government, and support it actively.

**Learning Outcome:**

Given a situation of choice, the students will actively support ethical performance by accredited veterinarians.

*Infinitives:*

to increase measured  
proficiency in  
assist  
support  
argue

*Direct Objects:*

artistic productions  
projects  
viewpoints  
irrelevancies



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## Organization

Key words indicate that some organization is given to the various values being emphasized by some formal learning experiences.

Examples:

Educational Goal:

The participants will weigh alternative procedures and practices against the Standards for Accredited Veterinarians in relation to the public welfare rather than gain by an individual or specialized group.

Learning Outcome:

After sufficient experience with the concepts, the students will organize standards for their behavior which reflect the values acquired.

*Infinitives:*

to compare  
balance  
organize  
formulate

*Direct Objects:*

standards  
goals  
systems  
approaches

## Characterization

Key words reflect that adult learners will be characterized by certain behaviors which will demonstrate that they feel and believe and are ready to support (or not support) overtly some significant object or event in their environment. These words suggest that the ultimate affective behavior will be displayed in a selected area of living.

Examples:

Educational Goal:

The participants will practice a code of behavior based on ethical principles and serve as models for others.

Learning Outcome:

Given a variety of situations, the consistent overt behavior of the students will be characteristic of their values.

*Infinitives:*

to change  
be rated high  
by peers in  
avoid  
resolve

*Direct Objects:*

plans  
integrity  
excesses  
conflicts

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### 3. PSYCHOMOTOR COMPONENT OUTLINE

Numerous goals in adult education suggest that the performance of motor or physical skills will be the outcome of instruction. These skills are important to adults as they function in everyday living. The outline of major components of the psychomotor domain can be used to bring awareness and precision to formation of goals and learning outcomes.

#### Perception

The basic motor activity of perceiving or becoming aware of objects, qualities, and relations through the sense organs. After sensory stimulation, a decision is made as to what cues one must respond to in order to satisfy the requirements of the task.

Examples:

Educational Goal:

Participants will be aware of steps, and appearance of organs, in performing a standard necropsy.

Learning Outcome:

In observing the performance of a standard necropsy, students will identify the organs by appearance and relationship to each other.

*Infinitives:*

to recognize  
detect  
identify  
become aware of

*Direct Objects:*

parts  
differences  
relationships  
shapes

These infinitives focus on the initial perceiving or becoming aware of objects, qualities, or relations as a result of instruction.

#### Set

A preparatory adjustment or readiness for a particular kind of action or experience.

Examples:

Educational Goal:

Participants will locate, select, and arrange in proper sequence equipment and supplies used in a standard necropsy.

Learning Outcome:

Given a situation where a necropsy is to be performed, the students will select and set up the instruments and devices necessary.



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*Infinitives:*

to focus  
locate  
set up  
select

*Direct Objects:*

movements  
positions  
tools  
directions

These infinitives suggest a preparation or readiness for a particular kind of activity.

**Guided Response**

A category where an individual, either under guidance of an instructor or based on a model or some criteria, makes an overt behavioral act.

Examples:

Educational Goal:

Participants will perform a standard necropsy with guidance.

Learning Outcome:

Under the guidance of an instructor, the student will be able to perform a standard necropsy—as demonstrated.

*Infinitives:*

to imitate  
reproduce  
model  
approximate

*Direct Objects:*

demonstrations  
examples  
patterns  
movements

These infinitives set the tone whereby adult learners will be able to perform certain acts under the guidance of an instructor.

**Mechanism**

The learned response has become habitual. The learner has achieved a certain confidence and degree of proficiency.

Examples:

Educational Goal:

Participants will be proficient in performing a standard necropsy independently.

Learning Outcome:

The students will perform a standard necropsy in an efficient manner.

---

*Infinitives:*

to assemble  
manipulate  
shape  
perform

*Direct Objects:*

parts  
steps  
materials

The infinitives should indicate that a learned response is fairly well habitual in nature.

**Complex Overt Response** The individual can perform a motor act that is considered complex because of the movement pattern required. A high degree of skill and finely coordinated muscle control is required.

Examples:

Educational Goal:

Participants will combine steps of a standard necropsy with those used in collection of specimens for confirmation of a specific suspected disease.

Learning Outcome:

In the investigation of a suspected disease such as FMD or rabies, the students will be able to perform a necropsy and collect the specimens required for laboratory examinations.

The infinitives indicate that, after instruction, the learner can perform complex motor acts.

**Adaptation**

Altering motor activities to meet demands of new problematic situations requiring a physical response.

Examples:

Educational Goal:

Participants will adapt steps in standard necropsy to different species to be examined or diverse field conditions with limited resources.

Learning Outcome:

In a field situation, the student will be able to perform a standard necropsy on a wildlife species and collect appropriate specimens for laboratory examination.

*Infinitives:*

to adapt  
convert  
integrate  
standardize

*Direct Objects:*

operations  
procedures  
sequences  
steps

---

The infinitives indicate that the learner adapted to new situations by altering motor activities to meet new demands in problem situations.

## Origination

Creating new motor acts and ways of manipulating materials out of understanding, abilities, and skills developed in the psychomotor area.

Examples:

Educational Goal:

Participants will be able to develop a new biopsy procedure or other new necropsy technique.

Learning Outcome:

Given an unusual circumstance, the learner will design or originate new techniques for collection of tissue and/or fluid specimens for laboratory examination.

*Infinitives:*

to create  
design  
invent  
originate

*Direct Objects:*

patterns  
movements  
systems  
procedures

The infinitives and direct objects reflect that new motor acts or ways of manipulating materials have resulted in broad application of the subject matter.

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## 4. INTERACTIVE (INTERPERSONAL) COMPONENT OUTLINE

Most interactive skills would seem to have some elements of attitude (affective) and would require some basic knowledge to be applied (cognitive). They may even call for some physical action at times. However, an interactive skill is to do *basically* with the *interaction* between people; just as psychomotor is to do *basically* with physical action (of people), a cognitive skill with *intellectual activity*, and an affective skill is to do *basically* with reacting appropriately (to objects, events, phenomena, people, etc.).

One classification of interactive behaviors is:

### Proposing

Behavior which puts forward a new concept suggestion or course of action (and is actionable).

### Building

Behavior which extends or develops a proposal which has been made by another person (and is actionable).

### Supporting

Behavior which involves a conscious and direct declaration of support or agreement with another person or his concepts.



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<b>Disagreeing</b>	Behavior which involves a conscious, direct, and reasoned declaration of difference of opinion or criticism of another person's concepts.
<b>Defending/Attacking</b>	Behavior which attacks another person or defensively strengthens an individual's own position. Defending/attacking behaviors usually involve overt value judgments and often contain emotional overtones.
<b>Blocking/Difficulty Stating</b>	Behavior which places a difficulty or block in the path of a proposal or concept without offering any alternative proposal and without offering a reasoned statement of disagreement. Block/difficulty stating behavior therefore tends to be rather bald: e.g., "It won't work," or "We couldn't possibly accept that."
<b>Open</b>	Behavior which exposes the individual who makes it to risk of ridicule or loss of status. This behavior may be considered as the opposite of defending/attacking, including within this category admissions of mistakes or inadequacies provided that these are made in a nondefensive manner.
<b>Testing Understanding</b>	Behavior which seeks to establish whether or not an earlier contribution has been understood.
<b>Summarizing</b>	Behavior which summarizes, or otherwise restates in a compact form, the content of previous discussions or considerations.
<b>Seeking Information</b>	Behavior which seeks facts, opinions, or clarification from another individual or individuals.
<b>Giving Information</b>	Behavior which offers facts, opinions, or clarification to other individuals.
<b>Shutting Out</b>	Behavior which excludes, or attempts to exclude, another group member (e.g., interrupting, talking over).
<b>Bringing In</b>	Behavior which is a direct and positive attempt to involve another group member.

## Task Analysis

### Area of Responsibility 1

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#### Prevent Exportation, Importation, or Interstate Movement of Diseased Animals or Their Products

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##### 1.1 Duty:

##### Examine (inspect) animals.

###### 1.1.1 Task:

###### Examine animals at rest and in motion under appropriate conditions.

- (K) 1.1.1.1 Describe conditions needed to adequately examine each species (restraint equipment, sufficient lighting, protection from elements, etc.).
- (K) 1.1.1.2 Recognize appearance and behavior of normal animal (hair, coat, feathers, body condition, conformation, feces, urine, other discharges, gaits, etc.).
- (K) 1.1.1.3 For each species, recognize ranges of normal values for body temperature, pulse, and respiration rates.
- (S) 1.1.1.4 Recognize normal and abnormal respiratory sounds.
- (S) 1.1.1.5 For each species, collect examination information and record it accurately and legibly.

###### 1.1.2 Task:

###### Determine the significance of any abnormalities observed in regard to eligibility for shipment.

- (K) 1.1.2.1 Describe how environmental conditions can affect normal physiologic functions.
- (S) 1.1.2.2 Determine if environmental conditions were probable cause of observed deviations from normal physiologic function (diarrhea or other signs resulting from ambient temperature, handling, or transportation stress, etc.).
- (S) 1.1.2.3 Decide if animals are eligible for shipment based on observed abnormalities.

###### 1.1.3 Task:

###### If legally required or essential to making decision, observe (examine) remainder of flock or herd.

- (K) 1.1.3.1 Recognize normal behavior of the group.

##### 1.2 Duty:

##### Identify animals.

###### 1.2.1 Task:

###### Describe animal.

- (S) 1.2.1.1 Recognize breeds, sex, age, color, and other distinguishing features.
- (S) 1.2.1.2 Locate, collect, and record tag, tattoo, brand, or other identifiers.
- (K) 1.2.1.3 Explain function of Dairy Herd Improvement Association, artificial insemination and breed association identification systems.

###### 1.2.2 Task:

###### Apply eartag, backtag, tattoo, or other identification.

- (K) 1.2.2.1 Identify appropriate site and circumstances for application of eartag, backtag, leg band, tattoo, or other form of identification.
- (S) 1.2.2.2 Accurately perform eartagging, backtagging, leg banding, branding, tattooing, or other form of identification.

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- (K): 1.2.2.3 Recognize circumstances and site for applying "B", "S", "V" brand or other brands required to identify reactors, suspects, or exposed animals.
  - (S): 1.2.2.4 Accurately apply "B", "S", "V", or other required brand.
  - (K): 1.2.2.5 Identify where to obtain official supplies and equipment used in animal identification.
  - (K): 1.2.2.6 Describe appropriate maintenance of animal identification supplies and equipment.

**1.2.3 Task:**

**Record identification data.**

- (K): 1.2.3.1 Given an appropriate form or certificate, locate all required animal identifier information.
- (S): 1.2.3.2 Given required animal identifier information, enter it accurately and completely on form or certificate.
- (K): 1.2.3.3 Explain State and Federal (e.g. 9 CFR 71.18) regulations in regard to maintaining identity of origin of animals.

**1.2.4 Task:**

**Explain importance of accurate identification in animal disease control programs.**

- (K): 1.2.4.1 Describe importance of accurate animal identification.
- (S): 1.2.4.2 Effectively communicate significance to others.

**1.3 Duty:**

**Issue interstate health certificates.**

**1.3.1 Task:**

**Determine current State and Federal entry (import) requirements for State of destination.**

- (K): 1.3.1.1 Identify appropriate information source.

**1.3.2 Task:**

**Complete forms accurately and legibly, including laboratory test results and laboratory of origin.**

- (K): 1.3.2.1 Given a form, identify appropriate information to be included, recognizing the need for physical examination to obtain the information.
- (S): 1.3.2.2 Given appropriate information, fill in data on form accurately and legibly.
- (A): 1.3.2.3 Appreciate the importance of accurate, complete, and legible records.

**1.3.3 Task:**

**Obtain permit number from State of destination.**

- (K): 1.3.3.1 Determine where to obtain the number.

**1.3.4 Task:**

**Make suitable distribution of the report.**

- (K): 1.3.4.1 Determine where (to whom) and when each copy of the report is to be sent.



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**1.3.5 Task:**

**Explain limitations (e.g., time limit from issuance to use) of health certificate to owner or shipper.**

- (K): 1.3.5.1 Recognize the limitations and why they exist.
- (S): 1.3.5.2 Given a situation involving issuance of a health certificate, effectively communicate the information verbally to another.
- (A): 1.3.5.3 Be patient in dealing with others and appreciate their viewpoint.

**1.4 Duty:**

**Issue international health certificates.**

**1.4.1 Task:**

**Determine requirements of the importing country, including time limitations for certificate use and animal identification required.**

- (K): 1.4.1.1 Identify source of current requirements.
- (K): 1.4.1.2 Explain difference between U.S. requirements for export and import requirements of country of destination.

**1.4.2 Task:**

**Determine minimum U.S. requirements for export.**

- (K): 1.4.2.1 Identify source of current requirements.

**1.4.3. Task:**

**Perform the required tests.**

- (K): 1.4.3.1 Determine the procedures to be done by the practitioner for each of the tests.
- (S): 1.4.3.2 Accurately perform each of the procedures to be done by the practitioner.

**1.4.4 Task:**

**Determine laboratory(ies) approved to perform needed tests, including time limitations, submission requirements, fees, and other relevant information.**

- (K): 1.4.4.1 Identify source of approved laboratory list.
- (S): 1.4.4.2 Recognize what questions to ask the laboratory regarding its service to assure proper collection, identification and shipment of specimens.
- (A): 1.4.4.3 Appreciate the importance of proper sample submission, contacting laboratory and AVIC (if needed) beforehand.

**1.4.5 Task:**

**Complete forms accurately and legibly.**

- (K): 1.4.5.1 Given a form, identify appropriate information to be included.
- (S): 1.4.5.2 Given appropriate information, fill in data on form accurately and legibly.
- (A): 1.4.5.3 Appreciate the importance of accurate, complete, and legible records.

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**1.4.6 Task:**

**Make appropriate distribution of certificate, including appropriate USDA representative if endorsement required before shipment.**

- (K): 1.4.6.1 Determine where (to whom) and when each copy of the certificate is to be sent.

**1.4.7 Task:**

**Explain limitations of health certificate to owner or shipper.**

- (K): 1.4.7.1 Recognize the limitations and why they exist.  
(S): 1.4.7.2 Given a situation, effectively communicate the information.  
(A): 1.4.7.3 Be patient in dealing with others and appreciate their viewpoint.

**1.5 Duty:**

**Issue permit for movement of restricted animals.**

**1.5.1 Task:**

**Determine which animals are restricted.**

- (K): 1.5.1.1 Determine applicable regulations.  
(K): 1.5.1.2 Identify sources of marketing or other records to be reviewed.  
(K): 1.5.1.3 Identify the status (e.g., steers vs. heifers) of animals in restricted group.  
(S): 1.5.1.4 Explain regulations to owners.  
(A): 1.5.1.5 Appreciate importance (value) of animal restrictions to animal disease control programs.

**1.5.2 Task:**

**Select suitable permit forms.**

- (K): 1.5.2.1 Recognize the various forms available, which should be used for each type of movement, and their source.  
(S): 1.5.2.2 Contact the appropriate regulatory authority for advice when needed.  
(A): 1.5.2.3 Appreciate the importance of careful control of restricted animals.

**1.5.3 Task;**

**Identify animal by official identifier (e.g., eartag, bangle tag, leg band, tattoo, backtag, and/or brand).**

- (K): 1.5.3.1 Recognize official identification devices; identify the proper location of these for each disease eradication program and the authority required for application.  
(S): 1.5.3.2 Use safe and effective restraining method to facilitate reading or applying identification devices.  
(S): 1.5.3.3 Apply identification device accurately.  
(A): 1.5.3.4 Recognize need and be willing to comply with directions for location and application of devices.

**1.5.4 Task:**

**Identify animals by age, breed, sex, color, and markings.**

- (K): 1.5.4.1 Recognize identifying characteristics of animals.  
(S): 1.5.4.2 Estimate age by using dental formula.  
(S): 1.5.4.3 Accurately record required information.  
(A): 1.5.4.4 Recognize need for accuracy and consequences if not.



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**1.5.5 Task:**

**Seal trucks when applicable.**

- (K): 1.5.5.1 Explain how to apply seals to effectively prevent violation.
- (K): 1.5.5.2 Explain when seals are required and where they are obtained.
- (S): 1.5.5.3 Apply seals as required.
- (S): 1.5.5.4 Comply with directions for sealing trucks.
- (S): 1.5.5.5 Accurately record required information.

**1.5.6 Task:**

**Accurately complete and distribute permit form.**

- (K): 1.5.6.1 Given an appropriate form, identify all information needed.
- (K): 1.5.6.2 Identify source of information to determine appropriate distribution.
- (A): 1.5.6.3 Be willing to gain commitment of shipper to complete forms and comply with provisions of permit.
- (S): 1.5.6.4 Explain effectively to driver the procedures to follow.
- (S): 1.5.6.5 When necessary, advise receiving officials regarding shipment, including approximate arrival time.
- (A): 1.5.6.6 Appreciate need for accurately completed form.

**1.6 Duty:**

**Test cattle at approved markets and on premises for interstate movement.**

**1.6.1 Task:**

**Determine breed, age, sex, vaccination status, test history, and identity of animal.**

- (K): 1.6.1.1 Recognize distinguishing features.
- (K): 1.6.1.2 Recognize brucellosis vaccination tattoos and eartags (including differences between States), and determine approximate date of vaccination.

**1.6.2 Task:**

**Determine State of destination and its requirements.**

- (S): 1.6.2.1 Determine destination by questioning owner.
- (S): 1.6.2.2 Determine entry requirements of State of destination.

**1.6.3 Task:**

**Examine (inspect) animal.**

- (S): 1.6.3.1 Distinguish normal from abnormal features of animal detectable during physical examination.

**1.6.4 Task:**

**Collect appropriate specimens (e.g., blood, skin scraping).**

- (K): 1.6.4.1 Determine appropriate specimens for collection.
- (S): 1.6.4.2 Skillfully collect and identify specimens.

**1.6.5 Task:**

**Perform required tests.**

- (K): 1.6.5.1 Determine which tests are required (e.g., intradermal tuberculin).
- (S): 1.6.5.2 Accurately perform tests.

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**1.6.6 Task:**

**Submit required specimens to appropriate laboratory(ies).**

- (K): 1.6.6.1 Identify appropriate laboratory.
- (K): 1.6.6.2 Determine appropriate procedures in preparing, preserving, labeling, packaging, and handling specimens for submission to laboratory as well as for obtaining authorization.
- (S): 1.6.6.3 Appropriately perform all procedures in submitting specimens.
- (A): 1.6.6.4 Recognize the need for suitable submission.

**1.6.7 Task:**

**Submit required documents (forms, etc.) completed correctly to appropriate authorities.**

- (K): 1.6.7.1 Identify appropriate required forms or certificates.
- (K): 1.6.7.2 Determine appropriate source(s) for official supplies for laboratory submission.
- (S): 1.6.7.3 Obtain needed supplies to effectively perform task.
- (K): 1.6.7.4 Given an appropriate form or certificate, identify all required information.
- (S): 1.6.7.5 Given the required information, accurately and legibly complete form or certificate.
- (K): 1.6.7.6 Recognize importance of this information in animal disease control.
- (A): 1.6.7.7 Recognize the need to be willing to perform the task in acceptable manner.

**1.7 Duty:**

**Report “suspicious” lesions found in necropsied (slaughtered) animals.**

**1.7.1 Task:**

**Perform necropsy.**

- (K): 1.7.1.1 Distinguish abnormal and normal characteristics observed at necropsy.
- (S): 1.7.1.2 Perform a standard necropsy in an efficient manner.
- (S): 1.7.1.3 Determine probable cause of lesions observed.
- (S): 1.7.1.4 Handle tissues skillfully to prevent further spread of agent to man or other animals.

**1.7.2 Task:**

**Recognize signs and lesions compatible with foreign animal disease.**

- (K): 1.7.2.1 Recognize lesions “suspicious” of foreign animal disease or other reportable disease.
- (K): 1.7.2.2 Recognize signs in living animal “suspicious” of foreign animal diseases.
- (S): 1.7.2.3 Recognize signs in poultry and pet birds compatible with exotic Newcastle disease or avian influenza.
- (S): 1.7.2.4 Obtain history to establish if possible “foreign” exposure.

**1.7.3 Task:**

**Report “suspicious” necropsy lesions observed to appropriate authorities.**

- (K): 1.7.3.1 Identify appropriate authority and method for reporting “suspicious” lesions observed.
- (A): 1.7.3.2 Appreciate importance of reporting.



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**1.7.4 Task:**

**Explain implications of lesions to owner.**

- (K): 1.7.4.1 Recognize significance of lesions to owner, other producers, and public.

**1.7.5 Task:**

**Ensure appropriate disposal of carcass.**

- (K): 1.7.5.1 Determine acceptable disposal techniques.  
(K): 1.7.5.2 Recognize implications of inadequate disposal.  
(K): 1.7.5.3 Determine what restrictions affect available disposal methods.  
(S): 1.7.5.4 Explain to owner need for adequate disposal.  
(S): 1.7.5.5 Direct suitable disposal.  
(A): 1.7.5.6 Appreciate importance of adequate disposal.

**1.7.6 Task:**

**Maintain competence in detecting possible foreign animal diseases.**

- (A): 1.7.6.1 Appreciate importance of foreign animal disease surveillance and need to remain current.  
(K): 1.7.6.2 Recognize sources of current information.  
(A): 1.7.6.3 Be willing to periodically review appropriate available information, including USDA-sponsored seminars.

**1.8 Duty:**

**Report any suspected foreign animal diseases, including VVND.**

**1.8.1 Task:**

**Notify appropriate official(s).**

- (K): 1.8.1.1 Identify appropriate authority and method for reporting "suspicious" lesions and signs observed in living animal, and timeliness required (e.g., immediately by telephone).  
(S): 1.8.1.2 Explain to owner the benefits of early detection in relation to disease spread and knowledge of disease status.  
(A): 1.8.1.3 Be willing to report in spite of potential inconvenience or conflict of interest with client.  
(K): 1.8.1.4 Explain Federal and State regulations which require reporting of suspected foreign animal diseases.  
(K): 1.8.1.5 Recognize possibility that pet birds may have been smuggled, and may be carriers of exotic Newcastle disease virus.

**1.8.2 Task:**

**Issue hold order or quarantine, if applicable, pending action by appropriate authorities.**

- (K): 1.8.2.1 Identify appropriate source of information and authority.  
(S): 1.8.2.2 Explain to client events likely to occur after issuance of quarantine.  
(K): 1.8.2.3 Recognize circumstances under which an accredited veterinarian is authorized to issue a hold order or quarantine.  
(K): 1.8.2.4 Determine content of a legal quarantine form.  
(S): 1.8.2.5 Complete a legally correct quarantine form.  
(A): 1.8.2.6 Be willing to take responsibility for issuance of quarantine and recognize importance.

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## 1.9 Duty:

**Recognize significant epidemiologic factors in maintenance, spread, and eradication of infectious diseases.**

### 1.9.1 Task:

**Identify significant factors in maintenance and spread of infectious diseases.**

- (K): 1.9.1.1 Identify agent, host, and environmental (including vehicles and vectors) factors involved in maintenance and spread of specified disease.
- (K): 1.9.1.2 Given a set of circumstances, predict likely consequences of specific infection in a population at risk.

### 1.9.2 Task:

**Apply epidemiologic principles to prevent spread or eradicate infectious disease.**

- (K): 1.9.2.1 Explain concept of "weak link" applied to animal disease control.
- (K): 1.9.2.2 Explain cost-benefit relationships as applied to animal disease control decisionmaking.
- (K): 1.9.2.3 Explain concepts of contact reduction, reservoir neutralization, and increasing host resistance applied to animal disease control.
- (S): 1.9.2.4 Given a flock or herd case study, apply epidemiologic principles to development of a disease control strategy.

### 1.9.3 Task:

**Advise regarding significance of animal diseases of concern to animal health and other public officials.**

- (S): 1.9.3.1 Effectively communicate at appropriate technical level significant factors involving:
  - a. Transmissibility and species susceptibility, including zoonotic potential.
  - b. Economic importance.
  - c. Prevention and control measures.
  - d. Regulatory implications of diagnosis.
  - e. Restriction of movement.

### 1.9.4 Task:

**Advise regarding use of quarantine and other procedures to restrict entry of infection into flock or herd, or to restrict spread within it.**

- (S): 1.9.4.1 Effectively communicate to owner significance of:
  - a. Raising own replacements.
  - b. Record of health status of source of any additions.
  - c. Proper certification and testing before adding to flock or herd.
  - d. Retesting at optimal interval before adding to flock or herd.
  - e. Preventing co-mingling with animals from flocks or herds of unknown health status.
- (S): 1.9.4.2 Effectively communicate to owner design and implementation of program appropriate to specific premises and type of management.
- (A): 1.9.4.3 Be willing to emphasize importance of applying quarantine and other procedures to prevent introduction and spread of infectious and parasitic diseases.

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- 1.10 Duty: Participate in emergency disease preparedness programs.**
- 1.10.1 Task:**  
**Cooperate with governmental authorities in dissemination of information.**
- (K): 1.10.1.1 Identify significant epidemiologic aspects of emergency diseases.
  - (K): 1.10.1.2 Recognize role in preventing occurrence and action if disease should occur.
  - (A): 1.10.1.3 Be willing to cooperate with Government in promoting actions needed.
- 1.11 Duty: Certify disease status of poultry flocks for shipment of birds or eggs.**
- 1.11.1 Task:**  
**Obtain health history of flock from owner.**
- (S): 1.11.1.1 Recognize and record signs and lesions.
  - (S): 1.11.1.2 Determine relationship to current problem.
  - (S): 1.11.1.3 Collect flock history and determine relationship of earlier events to current problem.
- 1.11.2 Task:**  
**Examine flock to verify health status.**
- (S): 1.11.2.1 Accurately collect examination data and record legibly and completely.
  - (S): 1.11.2.2 Decide if eligible for shipment based on health status.
- 1.11.3 Task:**  
**Collect specimens for required tests.**
- (K): 1.11.3.1 Determine requirements of the National Poultry Improvement Plan in regard to specific diseases affected.
  - (K): 1.11.3.2 Identify approved laboratory.
  - (S): 1.11.3.3 Suitably collect specimen in satisfactory condition.
- 1.11.4 Task:**  
**Complete required certificates.**
- (K): 1.11.4.1 Identify data needed and source of current requirements.
  - (S): 1.11.4.2 Complete certificate accurately and legibly.
- 1.12 Duty: Scrub stallions for release from CEM quarantine.**
- 1.12.1 Task:**  
**Determine requirements.**
- (K): 1.12.1.1 Identify source of current regulations.
  - (S): 1.12.1.2 Explain regulations to owner.
- 1.12.2 Task:**  
**Perform scrubbing**
- (S): 1.12.2.1 Effectively complete scrubbing to meet or exceed requirements.



### Seek Laboratory Support in Confirming Disease Diagnosis and Disease Surveillance

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#### 2.1 Duty:

**Collect, record, and submit relevant clinico-epidemiologic history.**

##### 2.1.1 Task:

**Record observed signs and lesions.**

- (S): 2.1.1.1 Recognize signs and lesions.
- (S): 2.1.1.2 Record observed signs and lesions legibly, coherently, and correctly.

##### 2.1.2 Task:

**Determine chronology and chronicity.**

- (K): 2.1.2.1 Generate relevant questions.
- (S): 2.1.2.2 Question owner effectively.
- (S): 2.1.2.3 Record responses clearly and concisely.

##### 2.1.3 Task:

**Determine morbidity and mortality rates.**

- (K): 2.1.3.1 Define terms - incidence, prevalence.
- (S): 2.1.3.2 Given case study, calculate rates from raw data.

##### 2.1.4 Task:

**Record vaccination and treatment history.**

- (K): 2.1.4.1 Generate relevant questions.
- (S): 2.1.4.2 Question owner effectively.
- (S): 2.1.4.3 Record responses clearly and concisely.

##### 2.1.5 Task:

**Document movement in and out of flock or herd.**

- (K): 2.1.5.1 Describe role of animal movement in spread of disease agents and vectors.
- (S): 2.1.5.2 Question owner effectively.
- (S): 2.1.5.3 Legibly, coherently, and correctly record information on movements.
- (S): 2.1.5.4 Evaluate available information.
- (A): 2.1.5.5 Appreciate importance of collecting this information accurately for effective animal disease control and surveillance.

##### 2.1.6 Task:

**Note any management practices relevant to problem.**

- (K): 2.1.6.1 Describe management practices.
- (K): 2.1.6.2 Describe how practices can affect disease occurrence.
- (S): 2.1.6.3 Determine relationship of management practices to current problem.
- (A): 2.1.6.4 Appreciate importance of collecting this information.

##### 2.1.7 Task:

**Record previous problems of a similar nature.**

- (S): 2.1.7.1 Question owner about flock or herd history.
- (S): 2.1.7.2 Determine relationship of earlier events to current problem.
- (A): 2.1.7.3 Appreciate importance of collecting this information.

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## 2.2 Duty:

### Collect appropriate specimens for test.

#### 2.2.1 Task:

##### Establish differential diagnosis.

- (K): 2.2.1.1 Recognize and describe disease characteristics.
- (S): 2.2.1.2 Given a set of clinical observations, develop an appropriate differential diagnosis.

#### 2.2.2 Task:

##### Determine specimen(s) required for test(s) to confirm diagnosis.

- (K): 2.2.2.1 Determine source(s) of laboratory support, tests available, and requirements for submission.
- (K): 2.2.2.2 Describe limitations of available tests in confirming diagnosis in question.

#### 2.2.3 Task:

##### Collect specimen.

- (K): 2.2.3.1 Recognize conditions required for specimen to be satisfactory for test, e.g., separating serum, appropriate preservation, identity, acceptable container, and secure packaging.
- (S): 2.2.3.2 Properly collect specimen in satisfactory condition.
- (A): 2.2.3.3 Appreciate importance of proper sample collection.

#### 2.2.4. Task:

##### Identify, package, and ship specimen.

- (K): 2.2.4.1 Determine labeling, packaging, and handling requirements and restrictions of shipper/carrier, State and Federal authorities, and laboratory.
- (K): 2.2.4.2 Recognize potential problems associated with shipping, e.g., human exposure due to leakage, deterioration due to delays en route, etc.
- (S): 2.2.4.3 Adequately prepare specimen for shipment.
- (S): 2.2.4.4 Suitably prepare required accompanying documents, e.g., labels, tags, forms, history, etc.
- (S): 2.2.4.5 Formulate plan for successful shipment.
- (A): 2.2.4.6 Appreciate importance of proper specimen collection and handling to receipt of useful laboratory findings.

#### 2.2.5 Task:

##### If differential diagnosis includes a reportable disease, report it appropriately.

- (K): 2.2.5.1 Identify diseases that are reportable to State or Federal authorities, appropriate method of reporting, and authority to receive report.
- (A): 2.2.5.2 Be willing to promptly report as required, despite inconvenience and conflict of interest with owner.
- (A): 2.2.5.3 When exotic Newcastle disease, avian influenza, or other reportable disease of poultry is suspected, be willing to contact appropriate State-Federal office for reporting.

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**2.2.6 Task:**

**Advise client regarding significance of laboratory tests for suspected disease in question.**

(K): 2.2.6.1 Describe limitations of available tests, including sensitivity and specificity.

**2.3 Duty:**

**Apply laboratory test results for infectious or parasitic diseases as required for interstate or international movement and other purposes.**

**2.3.1 Task:**

**Obtain test requirements of State or country of destination.**

(K): 2.3.1.1 Identify appropriate source of information on current requirements.

**2.3.2 Task:**

**Interpret test results applicable to animal.**

(K): 2.3.2.1 Describe limitations of available test.

(K): 2.3.2.2 For shipment, match test results with entry requirements to determine eligible animals.

**2.3.3 Task:**

**Record test results on health certificate.**

(S): 2.3.3.1 Accurately and legibly record results.

(A): 2.3.3.2 Appreciate importance of accurate results in assuring maintenance of export markets.



## Area of Responsibility 3

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### Participate in Infectious Disease and Parasite Eradication Programs

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#### 3.1 Duty: Vaccinate cattle for brucellosis.

##### 3.1.1 Task:

##### **Appropriately obtain and maintain vaccine.**

- (K): 3.1.1.1 Identify appropriate source and who is authorized to obtain vaccine.
- (K): 3.1.1.2 Recognize temperature requirements, expiration date, and restrictions on distribution of vaccine, and explain rationale for them.

##### 3.1.2 Task:

##### **Select animals to be vaccinated.**

- (K): 3.1.2.1 Determine age and sex requirements to be eligible for vaccination and explain rationale for requirements.
- (K): 3.1.2.2 Recognize distinguishing features.
- (S): 3.1.2.3 Estimate age of animal.

##### 3.1.3 Task:

##### **Vaccinate animal.**

- (K): 3.1.3.1 Recognize appropriate dose or dilution of vaccine in relation to age, hazard of human infection associated with exposure to the vaccine; correct methods of dilution, filling syringe, injection, and disposal of vaccine bottle and syringe.
- (K): 3.1.3.2 Explain safe and effective means of animal restraint.
- (S): 3.1.3.3 Complete all vaccination procedures in safe and effective manner.

##### 3.1.4 Task:

##### **Identify animal.**

- (K): 3.1.4.1 Determine site and circumstances for applying identifier.
- (S): 3.1.4.2 Apply identifier with precision.

##### 3.1.5 Task:

##### **Complete vaccination certificate and distribute it appropriately.**

- (K): 3.1.5.1 Locate required identifier data.
- (S): 3.1.5.2 Accurately and completely enter data on certificate.
- (K): 3.1.5.3 Identify suitable distribution of certificate, including copies to owner and State-Federal office.
- (K): 3.1.5.4 Recognize the need to report inadvertent or accidental vaccination of bulls, previously vaccinated, or overage or underage animals.

##### 3.1.6 Task:

##### **Explain significance of vaccination to owner.**

- (K): 3.1.6.1 Define immune response expected and its limitations.
- (S): 3.1.6.2 Explain zoonotic potential.
- (K): 3.1.6.3 Describe effect of vaccination on future movement of animals and disease status/classification of area.
- (S): 3.1.6.4 Effectively communicate this information to owner.

## 3.2 Duty:

### Collect and submit blood samples for brucellosis testing.

#### 3.2.1 Task:

##### Prepare supplies and equipment for collection, e.g. needles, tubes.

- (K): 3.2.1.1 Explain requirements for cleaning and sterilizing needles.
- (K): 3.2.1.2 Determine placement of labels on tubes and arrangement for efficient handling during collection.
- (K): 3.2.1.3 Identify assemblage of needed restraint equipment, holding and shipping containers for tubes.

#### 3.2.2 Task:

##### Restrain animals.

- (K): 3.2.2.1 Explain safe and effective means of animal restraint, including keeping risk of injury to veterinarian and other participants to a minimum.
- (S): 3.2.2.2 Effectively restrain animals and direct participation of other persons in safe and effective restraint.

#### 3.2.3 Task:

##### Collect blood sample.

- (K): 3.2.3.1 Define quantity and type of sample(s) required, and collection procedure, including acceptable sites, e.g., pros and cons of tail bleeding.
- (K): 3.2.3.2 Recognize risks associated with improper bleeding, e.g., spread of infection to other animals and man, through contaminated needles, and legal liability.
- (S): 3.2.3.3 Correctly collect sample and instruct others to perform collection (if appropriate).
- (A): 3.2.3.4 Be willing to take care needed to perform bleeding in acceptable manner.

#### 3.2.4 Task:

##### Record identifier information and vaccination status.

- (K): 3.2.4.1 Recognize distinguishing features.
- (S): 3.2.4.2 Locate and accurately record identifier data.
- (A): 3.2.4.3 Appreciate importance of data to brucellosis program, especially to success of surveillance and accurate disease traceback, e.g., computerized Brucellosis Information System (BIS).

#### 3.2.5 Task:

##### Record market or private test results on test record.

- (K): 3.2.5.1 Recognize that Federal regulations require all market or private test sera and results be submitted to State-Federal laboratories for retesting and confirmation.
- (K): 3.2.5.2 Determine State laws where official confirmation of presumptive tests is required before movement of animals is allowed.
- (A): 3.2.5.3 Be willing to comply with the regulations.

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**3.2.6 Task:**

**Prepare and ship samples, with accompanying documents, to approved laboratory.**

- (A): 3.2.6.1 Be willing to take care to ship specimens and documents in appropriate and timely manner.

**3.3 Duty:**

**Perform card and plate tests for brucellosis (if authorized).**

**3.3.1 Task:**

**Obtain, properly store, and control test reagents and supplies.**

- (K): 3.3.1.1 Recognize storage requirements of reagents and supplies, e.g., temperature, expiration date.  
(K): 3.3.1.2 Recognize legal restriction on distribution of reagents and supplies to prevent unauthorized use.

**3.3.2 Task:**

**Determine if circumstances are appropriate to perform test.**

- (K): 3.3.2.1 Identify circumstances under which regulations authorize performance of test.  
(S): 3.3.2.2 Explain regulatory restrictions to owner.

**3.3.3 Task:**

**Identify animals to be tested and collect specimens.**

- (K): 3.3.3.1 Explain which animals are required to be bled.  
(K): 3.3.3.2 Explain requirements for establishing and maintaining accurate specimen identification.

**3.3.4 Task:**

**Perform test.**

- (K): 3.3.4.1 Describe procedures required in satisfactory test.  
(S): 3.3.4.2 Properly perform test.

**3.3.5 Task:**

**Interpret test and record results.**

- (K): 3.3.5.1 Explain use of standards applicable in interpretation of test, including significance of herd and animal history (test, vaccination, exposure, and infection).  
(S): 3.3.5.2 Given a set of test results and appropriate history, properly interpret test.  
(K): 3.3.5.3 Determine requirements for recording test results, including use of appropriate form.  
(S): 3.3.5.4 Given appropriate form, accurately and legibly record results.

**3.3.6 Task:**

**Submit results to State-Federal officials.**

- (K): 3.3.6.1 Determine packaging and shipping requirements.  
(S): 3.3.6.2 Formulate plan for successful shipment.

**3.3.7 Task:**

**Explain to owner significance of test results.**

- (K): 3.3.7.1 Explain potential followup procedures, e.g., retest, isolation, quarantine, disposal of reactors.  
(S): 3.3.7.2 Effectively communicate significance to owner.



### **3.4 Duty:**

#### **Classify animal and herd based on brucellosis test results.**

##### **3.4.1 Task:**

##### **Recognize significance of information as presented on test record.**

- (K): 3.4.1.1 Explain significance of symbols used on test record, e.g., BAPA, RST, STT, SPT, RIV, CF.
- (K): 3.4.1.2 Describe how the results of the tests, in conjunction with other factors, are used to arrive at a classification of the animal, e.g., negative, suspect, or reactor.
- (K): 3.4.1.3 Explain how the classification relates to potential status of infection of the animal, including influence of vaccination.
- (K): 3.4.1.4 Explain how the test results for a herd can be used to evaluate its status of infection.
- (K): 3.4.1.5 Describe how status of herd infection is used in deciding future actions.

##### **3.4.2 Task:**

##### **Explain results to owner.**

- (K): 3.4.2.1 Describe limitations of the test and followup procedures involved.
- (S): 3.4.2.2 Effectively communicate significance of test results to owner.
- (S): 3.4.2.3 Work with owner and Government veterinarian in developing herd plan for brucellosis eradication if needed.

### **3.5 Duty:**

#### **Perform tuberculin test and report test results.**

##### **3.5.1 Task:**

##### **Select animals to be tested.**

- (K): 3.5.1.1 Interpret test requirements, based on reason for test.
- (A): 3.5.1.2 Be willing to assure that test includes all animals required to be tested.

##### **3.5.2 Task:**

##### **Restrain animal.**

- (K): 3.5.2.1 Recognize importance of effective restraint in performing correct intradermal injection.
- (S): 3.5.2.2 Effectively restrain animal, using stanchion, chute, nose lead, snubbing post, and other methods.

##### **3.5.3 Task:**

##### **Apply and record official identification.**

- (K): 3.5.3.1 Recognize use of official identification devices in TB eradication program.
- (S): 3.5.3.2 Accurately record identifier data.
- (A): 3.5.3.3 Appreciate the importance of the information.

##### **3.5.4 Task:**

##### **Perform intradermal tuberculin injection.**

- (K): 3.5.4.1 Describe suitable selection and preparation of injection site, e.g., in caudal fold.
- (K): 3.5.4.2 Describe adequate maintenance of tuberculin, syringes, and needles; assembling and filling syringe; and correct type and volume of tuberculin to inject.

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- (S): 3.5.4.3 Correctly perform intradermal injection.
  - (A): 3.5.4.4 Appreciate critical importance of accurate injection to accurate reading and detection of tuberculosis.

**3.5.5 Task:**

**Advise owner regarding accountability of animals during test period.**

- (K): 3.5.5.1 Recognize requirement to account for all animals injected when reading the test 72 hours later.
- (S): 3.5.5.2 Effectively communicate this requirement to owner at time of injection.
- (A): 3.5.5.3 Be willing to make every effort to assure accountability.

**3.5.6 Task:**

**Read test and record observations.**

- (K): 3.5.6.1 Explain elements of tuberculin reaction, including immunologic basis, time required before observation, time required before retest, species differences (cattle, swine), and sensitivity and specificity (false positives).
- (K): 3.5.6.2 Define procedures in accurate reading and interpretation of response, including requirement to observe and palpate injection site.
- (S): 3.5.6.3 Accurately record data.
- (S): 3.5.6.4 Correctly observe and palpate injection site.
- (K): 3.5.6.5 Identify requirements for recording of observations on tuberculosis test record, including appropriate data to be recorded in "results" columns.
- (S): 3.5.6.6 Accurately and legibly record observations and classification.
- (A): 3.5.6.7 Strive to prepare an accurate, honest, legible, and complete report.

**3.5.7 Task:**

**Distribute report and explain significance of findings to owner and/or shipper.**

- (K): 3.5.7.1 Describe suitable method of reporting to State-Federal officials in relation to responses observed, and need for rapid reporting to facilitate retest.
- (K): 3.5.7.2 Explain the epidemiology of bovine tuberculosis; applicable State-Federal regulations, including penalties and potential liabilities for noncompliance, and retest procedures.
- (S): 3.5.7.3 Effectively communicate significance to owner.

**3.6 Duty:**

**Brand and tag reactor animals.**

**3.6.1 Task:**

**Restrain animal.**

- (S): 3.6.1.1 Effectively restrain animal.

**3.6.2 Task:**

**Confirm identity of animal.**

- (K): 3.6.2.1 Outline procedures to follow if identity of animal cannot be confirmed.

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**3.6.3 Task:**

**Apply tags and brands.**

- (K): 3.6.3.1 Accurately perform tagging and branding.

**3.6.4 Task:**

**Complete and distribute official forms.**

- (K): 3.6.4.1 Given an appropriate form, recognize information required for appraisal, followup investigations, and other purposes.
- (S): 3.6.4.2 Accurately and legibly complete form(s).
- (K): 3.6.4.3 Determine suitable distribution of form(s).
- (S): 3.6.4.4 Distribute forms promptly as required.

**3.6.5 Task:**

**Explain significance of action to owner.**

- (K): 3.6.5.1 Explain options for legal disposition of animal, appraisal process, and zoonotic potential involving animal(s) in question.
- (S): 3.6.5.2 Effectively communicate significance to owner.
- (A): 3.6.5.3 Be willing to comply with regulations.

**3.7 Duty:**

**Identify signs of reportable parasitic infestations (ticks, scabies, screwworms) and report suspected infestations.**

**3.7.1 Task:**

**Detect possible parasitic infestations.**

- (K): 3.7.1.1 Given a set of clinical signs (syndrome), classify as possible infestation or not.
- (S): 3.7.1.2 Given an affected animal, accurately detect and record associated signs.

**3.7.2 Task:**

**Collect, examine, and submit specimens for confirmation.**

- (K): 3.7.2.1 Describe procedures required to effectively collect (including most productive site), preserve, and package specimens to be submitted for confirmation.
- (K): 3.7.2.2 Describe procedures required to examine specimen for presumptive diagnosis, e.g., tentative identification of parasite.
- (S): 3.7.2.3 Effectively perform specimen collection, preservation, examination, and packaging.
- (K): 3.7.2.4 Describe identification, history, and other requirements for acceptable submission of specimen to laboratory.

**3.7.3 Task:**

**Explain significance of observations and action to owner and report to State-Federal authorities.**

- (K): 3.7.3.1 Explain epidemiology of suspected infestation, potential sequelae, legal options available to owner, and State-Federal requirements.
- (S): 3.7.3.2 Effectively communicate significance to owner.
- (S): 3.7.3.3 Promptly report findings to State-Federal authorities as required.



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## 3.8 Duty:

**Recognize signs compatible with scrapie and perform required follow-up procedures.**

### 3.8.1 Task:

**Detect possible scrapie.**

- (S): 3.8.1.1 Given a set of clinical signs (syndrome), classify as possible scrapie or not.
- (S): 3.8.1.2 Given an affected animal at rest and in motion, accurately detect associated signs.

### 3.8.2 Task:

**Obtain and evaluate history of animal and flock in relation to possible scrapie.**

- (K): 3.8.2.1 Explain significance of breed, age, reproductive status, incubation period, and other factors important in the epidemiology of scrapie.
- (K): 3.8.2.2 Describe signs and epidemiology of other conditions clinically similar to scrapie.
- (S): 3.8.2.3 Formulate questions which are useful in obtaining a meaningful history.
- (S): 3.8.2.4 Establish rapport with owner.
- (S): 3.8.2.5 Organize an interview, using appropriate interpersonal skills.
- (S): 3.8.2.6 Accurately determine reproductive status.
- (S): 3.8.2.7 Based on signs and history of animal and flock, differentiate scrapie from other conditions which may cause similar behavioral (neurologic) changes.
- (S): 3.8.2.8 Using defined examples, summarize findings.
- (A): 3.8.2.9 Have an appreciation for preventing spread of scrapie.

### 3.8.3 Task:

**When observed condition is compatible with scrapie, notify State-Federal officials.**

- (K): 3.8.3.1 Recognize the legal requirements for reporting suspected scrapie.
- (A): 3.8.3.2 Be willing to report promptly as required.

### 3.8.4 Task:

**Explain significance of findings and action to owner.**

- (K): 3.8.4.1 Identify the legal restrictions on sales and other movements of animals from the flock.
- (K): 3.8.4.2 Determine the legal options available to owner if scrapie is confirmed.
- (K): 3.8.4.3 Explain the clinical and economic significance of scrapie in a flock.
- (S): 3.8.4.4 Effectively communicate significance to owner.

## Area of Responsibility 4

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### Practice Procedures to Reduce Risk of Spreading Disease Agents or Vectors between Animals and Flocks or Herds

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#### 4.1 Duty: Report illegal feeding of food wastes (garbage) to swine.

##### 4.1.1 Task:

**Recognize situations in which feeding of uncooked (undercooked) food wastes is likely to occur.**

- (K): 4.1.1.1 Define food wastes, as applied.
- (K): 4.1.1.2 Describe management practices acceptable for feeding food wastes and means by which practices would be inadequate to assure effective cooking.

##### 4.1.2 Task:

**Report suspected unsatisfactory practice to State-Federal officials.**

- (K): 4.1.2.1 Explain significance of cooking food wastes to preventing spread of infection among swine.
- (K): 4.1.2.2 Define legal requirements for cooking food wastes and feeding them to swine, including exemptions and prohibitions.
- (K): 4.1.2.3 Identify appropriate State-Federal officials to receive reports of suspected violations.
- (A): 4.1.2.4 Be committed to preventing spread of infection associated with such management practices.

#### 4.2 Duty: Perform effective cleaning and disinfection.

##### 4.2.1 Task:

**Determine cleaning and disinfection needs in relation to premises, equipment, and personnel.**

- (K): 4.2.1.1 Correlate disease agent groups with known inactivation requirements for the group, e.g., heat, chemical drying, and UV light.
- (K): 4.2.1.2 Recognize materials and methods that are effective in cleaning and disinfection for specific agent under circumstances involved.
- (K): 4.2.1.3 Identify applicable legal restrictions involving cleaning and disinfection for suspected agent, including approved disinfectants.
- (K): 4.2.1.4 Determine availability of appropriate cleaning and disinfection products.
- (K): 4.2.1.5 Determine appropriate waiting period before repopulation.
- (K): 4.2.1.6 Recognize hazards to environment, man, and other animals associated with use of the cleaning and disinfection products and other procedures.
- (S): 4.2.1.7 Develop a plan for effective cleaning and disinfection appropriate to the circumstances, including means of determining if action is adequate.

##### 4.2.2 Task:

**Implement cleaning and disinfection.**

- (S): 4.2.2.1 Effectively communicate appropriate cleaning and disinfection requirements and procedures to owner.
- (S): 4.2.2.2 Organize action to be accomplished in approved and professional manner.

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#### **4.3 Duty:**

##### **Recognize suspected cases of reportable diseases and notify appropriate authorities.**

###### **4.3.1 Task:**

###### **Recognize signs and/or lesions compatible with a reportable disease.**

- (S): 4.3.1.1 Given a set of signs and/or lesions, classify them as compatible with reportable disease or not.
- (K): 4.3.1.2 Recognize zoonotic potential of reportable diseases.
- (K): 4.3.1.3 Identify which diseases are reportable, as defined by State-Federal regulations.
- (S): 4.3.1.4 Recognize observed signs and/or lesions of reportable diseases.
- (K): 4.3.1.5 Recognize which diseases are of concern to public health and other public officials in addition to animal health officials.

###### **4.3.2 Task:**

###### **Contact appropriate authorities.**

- (K): 4.3.2.1 Identify appropriate authority(ies), animal health and other(s), to contact and means acceptable to report in timely manner, e.g., whether reporting for a given disease is acceptable by letter or telephone.
- (A): 4.3.2.2 Appreciate importance of prompt and accurate reporting.

###### **4.3.3 Task:**

###### **Explain action to owner.**

- (K): 4.3.3.1 Explain consequences for owner, area, and industry if reportable disease occurs.
- (K): 4.3.3.2 Identify the legal requirements for reporting.
- (S): 4.3.3.3 Effectively explain action to owner.

###### **4.3.4 Task:**

###### **Issue hold order or quarantine if appropriate.**

- (K): 4.3.4.1 Explain consequences of movement of animals affected with reportable diseases.
- (K): 4.3.4.2 Determine if hold order or quarantine is appropriate.
- (K): 4.3.4.3 Determine proper means of completing document to assure that it is legally binding.
- (S): 4.3.4.4 Effectively explain reasons for issuance to owner.

#### **4.4 Duty:**

##### **Vaccinate horses against equine viral encephalomyelitis to meet shipping requirements.**

###### **4.4.1 Task:**

###### **Obtain and maintain appropriate vaccine in recommended manner.**

- (K): 4.4.1.1 Select appropriate vaccine for use under given circumstances, including source(s), and available dose quantities.
- (K): 4.4.1.2 Outline storage requirements to maintain potency, including temperature and expiration date.
- (A): 4.4.1.3 Appreciate importance of appropriate vaccine and storage to effective immunization.



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**4.4.2 Task:**

**Administer vaccine.**

- (K): 4.4.2.1 Describe procedures required in safe and effective injection.
- (K): 4.4.2.2 Recognize time elements involved in developing protection and required for shipment.
- (S): 4.4.2.3 Safely and effectively perform vaccination.

**4.4.3 Task:**

**Complete record of vaccination.**

- (K): 4.4.3.1 Determine the vaccination requirements of State or country of destination, including appropriate information required on accompanying documents.
- (S): 4.4.3.2 Accurately and legibly complete vaccination record.

**4.4.4 Task:**

**Advise owner regarding significance of vaccination, including shipping requirements.**

- (K): 4.4.4.1 Determine shipping requirements.
- (K): 4.4.4.2 Explain the efficacy of the vaccine in protecting immunized horses and affecting the spread of infection, e.g., VEE, and any adverse reactions that may be anticipated.
- (K): 4.4.4.3 Describe the clinical and epidemiologic features of the equine viral encephalomyelitis.
- (S): 4.4.4.4 Effectively communicate advice to owner.

## Area of Responsibility 5

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### **Provide Clients and Others with Accurate, Informed Advice Regarding Animal Health and Welfare Programs and Other Diseases of National Concern**

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- 5.1 Duty:** **Advise regarding requirements for interstate or international movement of animals.**
- 5.1.1 Task:**  
**Determine needs of client.**  
(S): 5.1.1.1 Listen attentively to client's plans for movement.
- 5.1.2 Task:**  
**Provide advice.**  
(S): 5.1.2.1 Formulate a plan which will meet the requirements necessary for movement as well as satisfying the needs of the client.  
(S): 5.1.2.2 Effectively communicate proposed plan to client.  
(S): 5.1.2.3 Effectively explain to client, by using examples, possible consequences of failure to follow the plan.
- 5.2 Duty:** **Explain significance of export requirements to animal industry of the U.S.**
- 5.2.1 Task:**  
**Determine the significance of export requirements.**  
(K): 5.2.1.1 Explain consequences of failure to meet animal health requirements of country of destination, e.g., refuse entry, prohibit reentry into United States once shipped, embargo on U.S. exports.
- 5.2.2 Task:**  
**Provide explanation.**  
(K): 5.2.2.1 Identify sources of audiovisual and other aids to presentation of explanation to appropriate audience.  
(S): 5.2.2.2 Effectively communicate significance of export requirements.
- 5.3 Duty:** **Explain significance of U.S. restrictions on importation of animals, animal byproducts, semen, eggs, organisms, and vectors.**
- 5.3.1 Task:**  
**Determine significance of U.S. restrictions.**  
(K): 5.3.1.1 Identify source of current information on U.S. restrictions.  
(K): 5.3.1.2 Explain risk of introducing foreign animal disease and its significance to U.S. animal industry.  
(K): 5.3.1.3 Interpret U.S. restrictions in relation to applications of animal disease control principles.  
(A): 5.3.1.4 Be willing to remain current regarding restrictions and their relationship to world animal disease situation.  
(A): 5.3.1.5 Be willing to participate in appropriate continuing education.
- 5.3.2 Task:**  
**Provide explanation.**  
(S): 5.3.2.1 Effectively communicate explanation to individuals or groups.  
(A): 5.3.2.2 Be willing to communicate.

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#### **5.4 Duty:**

#### **Advise regarding significance of laboratory test results.**

##### **5.4.1 Task:**

##### **Determine significance of results.**

- (K): 5.4.1.1 Identify tests available for disease in question, including their sensitivity and specificity in detecting infection.

##### **5.4.2 Task:**

##### **Devise plan of action based on test results.**

- (K): 5.4.2.1 Explain epidemiology, prognosis, and control methods for the disease.
- (K): 5.4.2.2 Determine State-Federal regulations involved, including possibility of retesting.
- (K): 5.4.2.3 If an option, determine advisability of performing additional tests.
- (S): 5.4.2.4 Define options available to client.

##### **5.4.3 Task:**

##### **Provide advice.**

- (S): 5.4.3.1 Effectively communicate options, based on analysis of available data.
- (S): 5.4.3.2 Effectively respond to questions of owner to assist in making appropriate decision.

#### **5.5 Duty:**

#### **Advise regarding State-Federal brucellosis or bovine tuberculosis regulations.**

##### **5.5.1 Task:**

##### **Determine client needs or concerns.**

- (S): 5.5.1.1 Effectively interview client to establish needs or concerns.

##### **5.5.2 Task:**

##### **Provide advice.**

- (S): 5.5.2.1 Effectively communicate advice appropriate to client need.
- (S): 5.5.2.2 Effectively respond to any questions of the client regarding the regulations and their penalties.
- (A): 5.5.2.3 Be willing to maintain professional standards and serve as Government representative.
- (A): 5.5.2.4 Be willing to maintain current knowledge of regulations and rationale behind them by appropriate means using available State or Federal sources.

#### **5.6 Duty:**

#### **Advise regarding procedures to follow in the event of a parasitic infestation.**

##### **5.6.1 Task:**

##### **Recognize the procedures to follow.**

- (K): 5.6.1.1 Identify source(s) of information regarding currently acceptable and effective eradication procedures.
- (K): 5.6.1.2 Describe suitable drug usage, including appropriate posttreatment withholding period before slaughter.
- (K): 5.6.1.3 Explain the life cycle of the parasite, particularly in relation to effective eradication methods.



**5.6.2 Task:**

**Provide advice.**

- (S): 5.6.2.1 Effectively communicate plan to owner.
- (S): 5.6.2.2 Explain, using appropriate examples, economic or societal losses associated with failure to follow the eradication procedures recommended.
- (A): 5.6.2.3 Be willing to conduct educational programs among producer groups and others in support of the eradication program.

**5.7 Duty:**

**Train others to perform cleaning and disinfection.**

**5.7.1 Task:**

**Recognize effective procedures to be performed.**

- (K): 5.7.1.1 Describe methods of cleaning and disinfection, their relative efficacy, available products; and hazards to animals, personnel, and environment.
- (K): 5.7.1.2 Recognize which cleanser and disinfectants are appropriate to inactivate specific agents.
- (K): 5.7.1.3 Describe safe and sanitary procedure(s) for disposal of organic material to prevent further contamination.
- (K): 5.7.1.4 Describe recommended procedures to evaluate effectiveness of cleaning and disinfection, e.g., visual examination, swabs, and plate counts.

**5.7.2 Task:**

**Explain and demonstrate correct preparation and application of appropriate disinfectants.**

- (S): 5.7.2.1 Prepare and apply products, including making appropriate dilutions.
- (S): 5.7.2.2 Effectively communicate to others the procedures involved.

**5.7.3 Task:**

**Explain and demonstrate proper removal of organic waste for effective sanitation.**

- (S): 5.7.3.1 Effectively remove organic waste.
- (S): 5.7.3.2 Effectively communicate to others the procedures involved.
- (A): 5.7.3.3 Be willing to emphasize the need for removal of organic material as critical part of effective cleaning and disinfection.

**5.7.4 Task:**

**Explain and demonstrate proper cleaning and disinfection of boots, coveralls, chute, and other equipment.**

- (S): 5.7.4.1 Perform cleaning and disinfection in a demonstration.
- (S): 5.7.4.2 Effectively communicate to others the procedures involved.
- (A): 5.7.4.3 Be willing to demonstrate the importance of these procedures by continuous personal example.

**5.7.5 Task:**

**Supervise and evaluate performance of others to assure effectiveness.**

- (S): 5.7.5.1 Effectively communicate standards of performance expected.
- (S): 5.7.5.2 Carefully observe actual performance.
- (S): 5.7.5.3 Effectively explain any deficiencies and possible remedies in relation to standards.
- (A): 5.7.5.4 Be willing to organize programs to demonstrate effective cleaning and disinfection.

## Area of Responsibility 6

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### **Administer or Prescribe Biological Products, Chemicals, or Drugs in Compliance with Legal and Professional Standards**

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- 6.1 Duty:** **Appropriately use biological products or authorized chemicals and drugs.**
- 6.1.1 Task:**  
**Appropriately use veterinary biologics, as legally defined.**
- (K): 6.1.1.1 Describe biological products used in diagnosis, treatment, or prevention of diseases of animals.
  - (K): 6.1.1.2 Determine clinico-epidemiologic basis for effective use.
  - (K): 6.1.1.3 Determine legal restrictions on use, including constraints identified in package insert.
- 6.1.2 Task:**  
**Appropriately use authorized chemicals and drugs applicable to State-Federal disease eradication programs.**
- (K): 6.1.2.1 Determine clinico-epidemiologic basis for effective use.
  - (K): 6.1.2.2 Determine legal restrictions on use.
- 6.2 Duty:** **Maintain product to assure safety and potency.**
- 6.2.1 Task:**  
**Apply appropriate information accompanying product.**
- (K): 6.2.1.1 Interpret information provided on label or package insert.
  - (S): 6.2.1.2 Effectively store and use product according to instructions provided.
  - (A): 6.2.1.3 Be willing to avoid inappropriate combination or dilution of biologics or other inappropriate use of products.
  - (K): 6.2.1.4 Explain legal implications, e.g., extra-label use of products.
  - (K): 6.2.1.5 Maintain a log of product lot/serial numbers used.
- 6.2.2 Task:**  
**Advise client regarding use of product.**
- (K): 6.2.2.1 Explain withdrawal times, possible adverse reactions, and human hazards.
  - (S): 6.2.2.2 Effectively communicate information to client.

## Area of Responsibility 7

### Perform Animal Welfare Duties in Compliance with Legal and Professional Standards

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#### 7.1 Duty:

**Provide veterinary service to licensed dealer clients.**

##### 7.1.1 Task:

**Develop veterinary care plan for client facility, including procedures for immunization, treatment, and euthanasia.**

- (K): 7.1.1.1 Explain requirements of applicable sections of Animal Welfare Act.
- (S): 7.1.1.2 Apply appropriate immunization procedures to prevent infectious diseases.
- (S): 7.1.1.3 Perform appropriate diagnostic procedures for animal species involved.
- (S): 7.1.1.4 Provide appropriate therapy for animal species involved.
- (S): 7.1.1.5 Apply accepted humane methods for euthanasia and caging.

#### 7.2 Duty:

**Provide veterinary services as specified under the Horse Protection Act.**

##### 7.2.1 Task:

**Explain the requirements of the Horse Protection Act (HPA).**

- (K): 7.2.1.1 Recognize the responsibilities of the accredited veterinarian under the HPA.
- (S): 7.2.1.2 Effectively explain HPA regulations to others.
- (A): 7.2.1.3 Appreciate importance of HPA provisions.

##### 7.2.2 Task:

**Examine or supervise examination of horses.**

- (K): 7.2.2.1 Describe tasks to be performed by Designated Qualified Person (DQP).
- (S): 7.2.2.2 Precisely demonstrate accepted examination techniques.
- (S): 7.2.2.3 Effectively supervise performance of DQP.

##### 7.2.3 Task:

**Identify illegal activities.**

- (K): 7.2.3.1 Recognize which activities (practices) are illegal.
- (S): 7.2.3.2 In a given situation, accurately detect evidence of specific illegal activity.

##### 7.2.4 Task:

**Take appropriate action when illegal activity detected.**

- (K): 7.2.4.1 Recognize steps to take when illegal activity detected, e.g., disqualification.
- (S): 7.2.4.2 Effectively perform steps in disqualification.
- (S): 7.2.4.3 Effectively explain reasons for action to others.
- (K): 7.2.4.4 Identify appropriate authority to report action and acceptable means of reporting.
- (S): 7.2.4.5 Suitably complete all steps in reporting.
- (A): 7.2.4.6 Appreciate importance of taking required action and reporting it.



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**7.3 Duty:**

**Perform certification (animal welfare) for transportation.**

**7.3.1 Task:**

**Determine conditions under which certification required and appropriate.**

- (K): 7.3.1.1 Explain requirements of animal welfare transportation regulations in regard to species, breed, age, and temperature (environmental) background.
- (K): 7.3.1.2 Describe patho-physiology of temperature acclimatization and its possible effects on animal.
- (S): 7.3.1.3 Accurately determine, by interview and other means, environmental background of animal.

**7.3.2 Task:**

**Prepare certification.**

- (K): 7.3.2.1 Identify the requirements of an acceptable certification statement.
- (S): 7.3.2.2 Accurately and legibly complete statement.
- (S): 7.3.2.3 Effectively explain statement to owner.

## **Area of Responsibility 8**

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### **Fulfill Role as Representative of the Government (State Federal Animal Health Agency)**

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#### **8.1 Duty:**

**Explain to clients and others the purposes and activities of Veterinary Services programs and their impact on accredited veterinarians.**

##### **8.1.1 Task:**

**Explain legal mandate.**

(K): 8.1.1.1 Explain laws creating authority and the reasons for their enactment.

##### **8.1.2 Task:**

**Explain current program activities.**

(K): 8.1.2.1 Explain functions of current programs and their impact on accredited veterinarians.

(K): 8.1.2.2 Explain relationship of State programs to Veterinary Services and their impact on accredited veterinarians.

#### **8.2 Duty:**

**Accept responsibility of accredited veterinarian.**

##### **8.2.1 Task:**

**Describe obligation.**

(K): 8.2.1.1 Explain role as representative of the Government.

(A): 8.2.1.2 Be willing to acknowledge importance of moral and ethical standards to performance of duties.

(A): 8.2.1.3 Appreciate the obligation.

##### **8.2.2 Task:**

**Determine requirements.**

(K): 8.2.2.1 Determine requirements to become accredited.

(K): 8.2.2.2 Determine requirements to maintain accreditation.

## Knowledge-Skill (K-S) Inventory

After each K-S identified below, two percentages are listed. The first is the percentage of Veterinary Services participants who responded that the K-S should be developed by veterinary students before graduation; the second is the percentage of university faculty participants who responded similarly. The total number of respondents was 19 from VS and 22 from the universities. If the percentage is followed by an \*, there was one less response. If followed by an \*\*, there were two less responses. The difference between the percentage shown and 100 is the percentage of respondents who categorized the K-S as "to be developed after graduation."

### COMPARATIVE SUMMARY OF RESPONSES

The inventory contains a total of 381 K-S statements. These statements are summarized into three categories, by respondent group, as follows: A = most categorized the K-S as "to be developed before graduation," B = the group was undecided, and C = most categorized the K-S as "to be developed after graduation." (V.S. respondents: A = >63%, B = 37 – 63%, C = <37%. University respondents: A = >64%, B = 36 – 64%, C = <36%.)

As can be seen from the table below, both groups placed 172 (45.1%) of the K-S statements in category A. One or more of these 172 K-S statements were included among all 8 (100%) of the areas of responsibility, 33/41 (80.5%) duties, and 82/152 (53.9%) tasks. In other words, no K-S statement among 8 duties and 70 tasks was included in category A by both groups.

V.S. Respondents	University Respondents			Total
	A	B	C	
A	172 (45.1)	30 (7.9)	0	202 (53.0)
B	29 (7.6)	89 (23.4)	14 (3.7)	132 (34.7)
C	0	18 (4.7)	29 (7.6)	47 (12.3)
Total	201 (52.7)	137 (36.0)	43. (11.3)	381 (100.0)



1.1.1.1 89-95	1.4.5.1 63-73	1.6.7.1 21-32	1.9.4.1 84-86
1.1.1.2 100-100	1.4.5.2 67*-73	1.6.7.2 16-27	1.9.4.2 79-73
1.1.1.3 100-100		1.6.7.3 21-18	
1.1.1.4 100-100	1.4.6.1 16-23	1.6.7.4 42-55	1.10.1.1 79-77
1.1.1.5 95-95		1.6.7.5 58-55	1.10.1.2 89*-73
	1.4.7.1 58-77		
1.1.2.1 100-100	1.4.7.2 72*-68	1.6.7.6 68-77	1.11.1.1 95-82
1.1.2.2 89-95			1.11.1.2 79-73
1.1.2.3 68-82	1.5.1.1 42-27	1.7.1.1 100-100	1.11.1.3 84-73
	1.5.1.2 37-18	1.7.1.2 100-100	
1.1.3.1 89-95	1.5.1.3 58-50	1.7.1.3 100-100	1.11.2.1 79-64
	1.5.1.4 53-27	1.7.1.4 100-100	1.11.2.2 37-32
1.2.1.1 100-100			
1.2.1.2 68-91	1.5.2.1 26-36	1.7.2.1 100-95	1.11.3.1 26-32
1.2.1.3 53-64	1.5.2.2 42-45	1.7.2.2 100-95	1.11.3.2 21-32
		1.7.2.3 100-95	1.11.3.3 68-50
1.2.2.1 53-68	1.5.3.1 53-68	1.7.2.4 95-86	
1.2.2.2 47-68	1.5.3.2 100-77		1.11.4.1 37-36
1.2.2.3 42-64	1.5.3.3 63-50	1.7.3.1 47-77	1.11.4.2 61*-41
1.2.2.4 32-32			
1.2.2.5 16-36	1.5.4.1 100-100	1.7.4.1 84-86	1.12.1.1 16-59
1.2.2.6 21-45	1.5.4.2 100-100		1.12.1.2 37-41
	1.5.4.3 89-86	1.7.5.1 74-68	
1.2.3.1 37-64		1.7.5.2 84-91	1.12.2.1 58-64
1.2.3.2 37-55	1.5.5.1 16-14	1.7.5.3 32-59	
1.2.3.3 37-36	1.5.5.2 5-9	1.7.5.4 68-64	2.1.1.1 100-95
	1.5.5.3 0-4	1.7.5.5 63-32	2.1.1.2 95-91
1.2.4.1 89-91	1.5.5.4 0-4		
1.2.4.2 61*-73	1.5.5.5 21-9	1.7.6.2 47-68	2.1.2.1 84-91
			2.1.2.2 89-77
1.3.1.1 47-64	1.5.6.1 37-45	1.8.1.1 37-82	2.1.2.3 89-82
	1.5.6.2 5-41	1.8.1.2 68-77	
1.3.2.1 74-82	1.5.6.4 16-14		2.1.3.1 100-95
1.3.2.2 78*-73	1.5.6.5 11-18	1.8.1.4 67*-64	2.1.3.2 100-95
		1.8.1.5 74-86	
1.3.3.1 26-41	1.6.1.1 95-91		2.1.4.1 84-77
	1.6.1.2 63-86	1.8.2.1 11-55	2.1.4.2 84-73
1.3.4.1 21-27		1.8.2.2 21-32	2.1.4.3 84-86
	1.6.2.1 47-59	1.8.2.3 43-32	
1.3.5.1 42-95	1.6.2.2 32-36	1.8.2.4 32-23	2.1.5.1 95-91
1.3.5.2 68-77		1.8.2.5 37-18	2.1.5.2 84-64
	1.6.3.1 100-100		2.1.5.3 84-82
1.4.1.1 26-50		1.9.1.1 95-100*	2.1.5.4 84-64
1.4.1.2 26-27	1.6.4.1 84-91	1.9.1.2 95-95*	
	1.6.4.2 100-91		2.1.6.1 74-91
1.4.2.1 32-59		1.9.2.1 95-95	2.1.6.2 89-91
	1.6.5.1 42-86	1.9.2.2 89-86	2.1.6.3 74-91
1.4.3.1 68-55	1.6.5.2 79-96*	1.9.2.3 95-95	
1.4.3.1 74-55		1.9.2.4 89-86	2.1.7.1 79-86
	1.6.6.1 21-50		2.1.7.2 74-86
1.4.4.1 26-27	1.6.6.2 42-55	1.9.3.1 84-82	
1.4.4.2 61-36	1.6.6.3 47-41		2.2.1.1 100-95
			2.2.1.2 100-95

2.2.2.1 53-68	3.2.3.1 79-91	3.5.4.1 74-95	3.8.2.7 79-82
2.2.2.2 79-86	3.2.3.2 89-95	3.5.4.2 74-91	3.8.2.8 84-68
	3.2.3.3 84-77	3.5.4.3 74-86	
2.2.3.1 84-91			3.8.3.1 53-86
2.2.3.2 84-82	3.2.4.1 79-91	3.5.5.1 74-82	
	3.2.4.2 68-86	3.5.5.2 68-77	3.8.4.1 42-45
2.2.4.1 47-36			3.8.4.2 37-41
2.2.4.2 79-82	3.2.5.1 47-64	3.5.6.1 78*-86	3.8.4.3 74-64
2.2.4.3 63-59	3.2.5.2 11-27	3.5.6.2 67*-95	3.8.4.4 63-55
2.2.4.4 47-59		3.5.6.3 67*-82	
2.2.4.5 58-43*	3.3.1.1 47-59	3.5.6.4 67*-86	4.1.1.1 74-71*
	3.3.1.2 47-50	3.5.6.5 56*-82	4.1.1.2 63-71*
2.2.5.1 68-68		3.5.6.6 61*-77	
	3.3.2.1 26-32		4.1.2.1 79-95*
2.2.6.1 84-86		3.5.7.1 47-50	4.1.2.2 53-52*
	3.3.2.2 26-32	3.5.7.2 42-55	4.1.2.3 37-48*
2.3.1.1 42-59		3.5.7.3 47-50	
	3.3.3.1 47-36		4.2.1.1 84-68
2.3.2.1 68-64	3.3.3.2 58-50	3.6.1.1 84-82	4.2.1.2 84-73
2.3.2.2 53-45			4.2.1.3 47-50
	3.3.4.1 53-55	3.6.2.1 32-50	4.2.1.4 26-36
2.3.3.1 79-82	3.3.4.2 53-45		4.2.1.5 37-50
		3.6.3.1 42-50	4.2.1.6 79-77
3.1.1.1 53-59	3.3.5.1 74-64		4.2.1.7 58-55
3.1.1.2 58-82	3.3.5.2 47-59	3.6.4.1 37-32	
	3.3.5.3 21-36	3.6.4.2 47-41	4.2.2.1 58-50
3.1.2.1 68-82	3.3.5.4 47-43*	3.6.4.3 32-32	4.2.2.2 58-45
3.1.2.2 84-91		3.6.4.4 37-27	
3.1.2.3 89-95	3.3.6.1 26-23		4.3.1.1 100-100
	3.3.6.2 32-27	3.6.5.1 32-45	4.3.1.2 100-100
3.1.3.1 84-77		3.6.5.2 53-50	4.3.1.3 74-73
3.1.3.2 89-91	3.3.7.1 32-45		4.3.1.4 100-95
3.1.3.3 84-96	3.3.7.2 42-43*	3.7.1.1 95-100	4.3.1.5 95-100
		3.7.1.2 89-100	
3.1.4.1 58-86	3.4.1.1 68-50		4.3.2.1 37-64
3.1.4.2 53-77	3.4.1.2 58-59	3.7.2.1 84-91	
	3.4.1.3 58-62*	3.7.2.2 84-95	4.3.3.1 63-64
3.1.5.1 47-73	3.4.1.4 53-59	3.7.2.3 68-86	4.3.3.2 42-45
3.1.5.2 53-82	3.4.1.5 47-55	3.7.2.4 68-91	4.3.3.3 58-50
3.1.5.3 32-45			
3.1.5.4 58-82	3.4.2.1 53-45	3.7.3.1 63-64	4.3.4.1 68-41
	3.4.2.2 47-41	3.7.3.2 53-64	4.3.4.2 21-23
3.1.6.1 89-95	3.4.2.3 26-32	3.7.3.3 37-59	4.3.4.3 26-14
3.1.6.2 89-95			4.3.4.4 44*-32
3.1.6.3 58-73	3.5.1.1 68-100	3.8.1.1 100-100	
3.1.6.4 68-76*		3.8.1.2 100-95	4.4.1.1 79-77
	3.5.2.1 89-100		4.4.1.2 74-73
3.2.1.1 89-86*	3.5.2.2 95-100	3.8.2.1 84-86	
3.2.1.2 53-67*		3.8.2.2 79-91	4.4.2.1 95-86
3.2.1.3 63-62*	3.5.3.1 58-82	3.8.2.3 79-86	4.4.2.2 84-91
	3.5.3.2 63-82	3.8.2.4 63-64	4.4.2.3 95-82
3.2.2.1 100-86		3.8.2.5 68-73	
3.2.2.2 95-82		3.8.2.6 74-77	

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4.4.3.1 26-36	5.4.2.3 47-41	5.7.4.1 95-73	7.2.2.1 37-36
4.4.3.2 58-59	5.4.2.4 42-41	5.7.4.2 78*-73	7.2.2.2 47-50
			7.2.2.3 42-32
4.4.4.1 32-41	5.4.3.1 68-45	5.7.5.1 63-41	
4.4.4.2 83*-82	5.4.3.2 68-41	5.7.5.2 58-32	7.2.3.1 68-64
4.4.4.3 100-86		5.7.5.3 63-36	7.2.3.2 37-36
4.4.4.4 74-73	5.5.1.1 63-55		
5.1.1.1 58-71*	5.5.2.1 63-50	6.1.1.1 100-95	7.2.4.1 32-32
	5.5.2.2 37-27	6.1.1.2 100-91	7.2.4.2 16-23
5.1.2.1 37-50		6.1.1.3 89-86	7.2.4.3 21-32
5.1.2.2 53-59	5.6.1.1 68-64	6.1.2.1 89-77	7.2.4.4 16-23
5.1.2.3 53-50	5.6.1.2 84-64	6.1.2.2 74-68	7.2.4.5 32-18
	5.6.1.3 95-86		
5.2.1.1 58-64		6.2.1.1 100-86*	7.3.1.1 47-59
	5.6.2.1 74-59	6.2.1.2 89-86*	7.3.1.2 100-82
5.2.2.1 37-32	5.6.2.2 68-68	6.2.1.4 89-86*	7.3.1.3 84-73
5.2.2.2 58-50		6.2.1.5 74-76*	
	5.7.1.1 79-59		7.3.2.1 47-50
5.3.1.1 32-50	5.7.1.2 68-55	6.2.2.1 89-86*	7.3.2.2 63-45
5.3.1.2 79-68	5.7.1.3 68-64	6.2.2.2 89-76*	7.3.2.3 63-41
5.3.1.3 47-64	5.7.1.4 74-55		
		7.1.1.1 68-64	8.1.1.1 79-68
5.3.2.1 71**-59	5.7.2.1 74-50	7.1.1.2 100-77	8.1.2.1 68-68
	5.7.2.2 74-50	7.1.1.3 100-73	8.1.2.2 74-73
5.4.1.1 74-59		7.1.1.4 100-77	
	5.7.3.1 74-64	7.1.1.5 95-82	8.2.1.1 68-82
5.4.2.1 79-64	5.7.3.2 74-68		
5.4.2.2 37-32		7.2.1.1 63-76*	8.2.2.1 84-82
		7.2.1.2 53-52*	8.2.2.2 74-68



## Summary of Participant Discussion

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The significance of veterinary accreditation to companion animal practitioners was discussed by the participants. To what extent do the parts of the Code of Federal Regulations (CFR) affecting accredited veterinarians relate to dogs, domesticated cats, or birds other than domestic species? The principal relative CFR statements involve certification (acclimation) for shipment of pets. A later survey of regulations among States, however, found that 40 require veterinarians to be accredited to issue health certificates for dogs.

It was agreed that competencies (knowledge-skills) essential to all veterinarians should be developed before graduation. These essential, or core, competencies identified among the list of significance to accredited veterinarians logically would be the basis for an entry level competency-based veterinary accreditation examination.

The remaining competencies would represent postentry level or specialty level needs. Measurement of these latter competencies could be done during orientation for accreditation in a specific State or later when need for the performance in question arises, perhaps limited by practice type or locality. Preparatory seminars for fee basis and other functions have been used for this purpose.

The completed task analysis should be sent to the AVMA Councils on Education, Public Health and Regulatory Veterinary Medicine, and Veterinary Service for their information and support.

Instructional modules will be developed initially to meet the identified core competency needs. Development and evaluation of the modules will be a joint effort between the veterinary schools and Veterinary Services. Although most persons preparing for accreditation are U.S. veterinary students, there are others who are not in this category. Therefore, instruction must be developed that is available to all and suitable to their needs.

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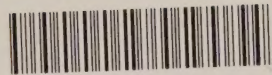
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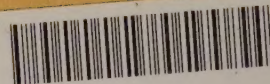
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